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Teacher education programs use the process of clinical supervision (planning conference, field observation, and feedback conference) to continually work with student teachers while they are engaged in the teaching process to support and assist them in improving upon their educator practices. This study explored the learning outcomes from the implementation of a clinical supervision program for the training of approved clinical instructors (ACIs) in athletic training.

Three ACIs with varied level of experience (12, 5, and 1 year) participated in the program over a four week time period. Pre and post intervention measures of the percentage of time spent using identified clinical educator behaviors were calculated using a systematic observation tool, Dondanville's (2005) Observational Record of Clinical Educator Behavior (ORCEB). The findings show that all three ACIs increased the use of clinical educator behavior that promoted active learning (explaining, demonstrating, and questioning), while simultaneously decreasing those behaviors that do not promote learning in the clinical environment (working in office, unrelated conversations, and treating athletes without student interaction).

A post-intervention ACI survey and focus group were also conducted. Both reflected positive changes in ACI perception and behavior following the intervention. All three ACIs agreed or strongly agreed that the intervention had positive impact on their role as an ACI and created a positive learning experience.

A SUPERVISION PROGRAM FOR APPROVED CLINICAL INSTRUCTORS IN ATHLETIC TRAINING

by

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TABLE OF CONTENTS

Page

LIST OF TABLES

Page

LIST OF FIGURES

Page

CHAPTER I

INTRODUCTION

Athletic training is an allied health profession that requires "hands on" interaction with patients. Without appropriate clinical education, students may develop an adequate knowledge base, but lack the expertise in clinical skills that are crucial to athletic training practice (Knight, 2002). Laboratory sessions are helpful for introducing and practicing basic athletic training skills, however, the clinical setting provides the optimal environment for the development and mastery of all skills necessary for professional practice (Hancox, Lynch, Happell, & Biondo, 2004; Knight, 2002; Peer, 2003). Through approved clinical instructor (ACI) and athletic training student (ATS) interaction, aspects such as interpersonal skills, attitudes, and a broader understanding of the role of athletic trainer, may be learned along with skill acquisition (Weidner & Henning, 2002). Certified athletic trainers function as clinical instructors, facilitating and integrating athletic training knowledge and skills into real-life situations to aid the student in bridging the gap between theory and practice (Lauber, Toth, Leary, Martin, & Killia, 2003; Laurent & Weidner, 2001).

Similar to other allied health education professions, athletic trainers do not receive pedagogical training in their undergraduate or graduate curricula, and are not formally

prepared to instruct students (Toburen, 2002; Weidner & Pipkin, 2002; Weidner & Henning, 2002, 2002). Athletic trainers employed in the university/college setting, however, are often called upon to function in the dual roles of athletic training provide and educator, although they are hired based on their clinical expertise (Weidner & Henning, 2004). The lack of training in pedagogy may well affect the role of the athletic trainer as clinical educator and increase the possibility of role strain as the ACI attempts to balance the expectations for providing athletic training services and teaching athletic training students (Henning & Weidner, 2008).

ACI Effectiveness

Current trends in athletic training educational research focus on the qualities and actions of clinical instructors that serve as delineators for "effectiveness" in the clinical education of students, and the construction of evaluative tools (Lauber et al., 2003; Weidner & Henning, 2004). Some researchers suggest that athletic training educators use this information

> …to develop and implement an evaluation tool for ACIs that would identify the demonstration of these important behaviors and also assess problem areas in clinical instruction. An evaluation tool would allow program directors (PDs) to provide feedback to individual CIs concerning their demonstration of these behaviors (Lauber et al., 2003 p.340).

Dondanville (2005) investigated the identification of effective clinical educator behavior of ACIs and the development and validation of assessment tools. Following an extensive review of medical-allied health literature, Dondanville (2005) presented the most commonly cited effective actions and characteristics and classified them into four

general behavior categories: 1) gives information, 2) gives information and evaluates students, 3) asks questions; promotes critical thinking, and 4) maintains physical presence and learning environment. Dondanville (2005) also identified examples of ineffective behaviors which included: favoritism, ridiculing students, loss of emotional control, demoralizing students, failing to accept legitimate excuses, lack of interpersonal relationship with student, unwillingness to help students, providing inadequate answers, and lacking flexibility. Using this information, Dondanville (2005) developed and validated three assessment tools for the evaluation of athletic training clinical educator effectiveness including a student and self-evaluation survey of the clinical educator and an observational record of clinical educator behavior (ORCEB).

Several studies have examined clinical instructor effectiveness with similar results that reflect a low usage of effective clinical instruction (Berry, Miller, & Berry, 2004; Miller & Berry, 2002; Polifroni, Packard, Shah, & MacAvoy, 1995; Remmen et al., 2000; Weidner & Pipkin, 2002). One study investigated athletic training student perceptions of the percentage of time spent on active learning during the clinical field experience. Berry et al.'s (2004) results revealed that athletic training students engaged in college/university and high school field experiences perceived their time spent in active learning at low levels, 30% and 25 % respectively.

Miller and Berry (2002) investigated how athletic training students used their time during clinical placements using a time profile and videography to record the behavior. They found that students spent 59% of their clinical experience time in unengaged

activities and only 7% of the overall time in instructional activities (Miller & Berry, 2002).

A more recent study (Dondanville, 2005) also assessed the use of effective clinical instructor behavior using surveys and an observational tool. Four ACIs were observed to gauge the frequency of positive and negative actions undertaken by the clinical instructors during clinical education sessions. The study produced results indicating that effective clinical instructor behaviors were being used only 24% of the time.

The previous studies reflected low levels of positive clinical instructor behavior and high levels of activities that negatively affect learning in the clinical setting including patient care without student interaction and behaviors unrelated to athletic training clinical education. If imparting athletic training competence is the goal of our educational process, we need to investigate avenues to increase the use of effective clinical instructor behaviors and ultimately improve the clinical education experience.

Berry, Miller, and Berry (2004) make an important point:

> One choice for educators to maximize student-learning time is to lengthen the available opportunity time. However, simply increasing opportunity time does not guarantee an increase in the quality of education, especially if the same educational techniques are employed. Instead of increasing time, educators should identify ways to manage time spent on activities such as transition, waiting, and unengaged time and consciously assess the quality of instruction and the amount of time students are engaged in active learning time (Berry et al., 2004 p.177).

ACI Training

As clinical instructor educators (CIEs) how can we assure that ACIs are using effective teaching behaviors? Current practices involve the hiring of athletic trainers who lack teaching knowledge and skills to work as clinical educators (Toburen, 2002; Weidner & Pipkin, 2002; Weidner & Henning, 2002). How do credentialed practitioners become effective clinical educators? Several medical-allied health professions have attempted to address the issue by providing training and certification for clinical educators (Gwyer, Odom, & Gandy, 2003; Hancox et al., 2004; Hesketh et al., 2001; Lycke, Hoftvedt, & Holm, 1998). The NATA followed a similar path. To address the lack of educational preparation of athletic training clinical educators, the 2001 *CAAHEP Standards and Guidelines for an Accredited Educational Program for the Athletic Trainer* included a requirement for the designation of a qualified athletic trainer to serve in the role of clinical instructor educator (CIE) to train, teach, and certify clinical educators as approved clinical instructors (ACI) in order to effectively teach and evaluate the *Athletic Training Clinical Proficiencies* (CAAHEP, 2001; Walters et al., 2001; Walters, 1999; Walters & Weidner, 2002; Weidner & Henning, 2004).

The CIE seminar includes instruction and discussion in reference to clinical education perspectives, learning over time, teaching and learning styles, the effective ACI, selection and evaluation of the ACI and clinical setting, student performance and evaluation, roles and responsibilities of the program and ACI, challenges in clinical education, and developing an ACI workshop (Walters et al., 2001; Walters, 1999; Walters & Weidner, 2002). The current Commission on Accreditation of Athletic

Training Education (CAATE) *Standards for the Accreditation of Entry-Level Athletic Training Education Programs* does not require attendance to the CIE seminar, but still mandates the ATEP designate an individual as CIE to provide the initial and continual training of ACIs at least every three years (CAATE, 2005).

The CIE seminar and several authors emphasize evaluation as an integral component of clinical education indicating that performance assessment of the clinical educator assists in determining individual competence in supervision (Anderson, Larson, & Luebe, 1997; Buccieri et al., 2006; Lauber et al., 2003; Strohschein, Hagler, & May, 2002). Methods for the systematic and objective evaluation of clinical instructor effectiveness are important and necessary in assuring that athletic training students are actively learning during the field experience (Lauber et al., 2003).

Provision of educational workshops offering background information in pedagogy, the development and implementation of clinical educator behavior evaluation tools, and the development of standards and criteria for the selection, training, and evaluation of ACIs are positive steps toward preparing and training ACIs in the practice of clinical education (Dondanville, 2005; Walters, 1999; Weidner & Henning, 2004). Continuing education workshops and periodic evaluations provide insight into effective clinical instruction; however, the impact of these alone may be transient. Current research suggests that the effectiveness of educational workshops on professional practice is temporary in nature unless consistent feedback is provided. (Caulfield-Sloan & Ruzicka, 2005; Davis, 2001; Leach & Conto, 1999). Lauber et al. (2003) believe that the information from the evaluation will lead to ACI self-reflection in relation to their

teaching behaviors and "…further improve on their strengths and to address their weaknesses (p. 340)." The literature supports reflection as essential to learning, but suggests that without guidance it becomes a difficult task and may not generate change in personal practice (Clouder & Sellars, 2004; Morton-Cooper & Palmer, 2000; Robertson, 1996). The quality of education is the ultimate goal for the athletic training student's clinical experience. It is imperative that our profession develop systemized training methods to assist ACIs in reflecting their use of effective clinical instructor behaviors, and not assume documented feedback will result in behavior change.

Clinical Supervision

Clinical supervision has not been clearly defined in the allied health and educational fields. The term is often used synonymously with many different types of supervision including developmental, peer, and often times with supervision (Bedward & Daniels, 2005; Clark et al., 2006; Clifford, Macy, Albi, Bricker, & Rahn, 2005; Kilminster & Jolly, 2000; Morton-Cooper & Palmer, 2000; Sloan & Watson, 2002). In general, clinical supervision is viewed as a collaborative relationship that promotes support for the practitioner and fosters improved clinical/teacher practice (Bedward & Daniels, 2005; Clifford et al., 2005; Playle & Mullarkey, 1998; Sloan & Watson, 2002; Winstanley & White, 2003). Training practitioners in the skills of clinical teaching provides a better understanding of the process and helps to overcome the common misconceptions surrounding clinical supervision (Bedward & Daniels, 2005).

Purpose of Research

Supervision occurs at multiple levels in an allied health education program (Figure 1). This study looks at the effects of a clinical supervision program implemented at the secondary level of supervision (CIE-ACI) on the primary level of supervision (ACI-athletic training student), using evaluative tools and focus group to provide data (Playle & Mullarkey, 1998). Training for ACIs is necessary to provide them with the understanding and purpose of clinical education and to assist in the development of skills in reflection and assertiveness (Bedward & Daniels, 2005). The purpose of the clinical supervision program is to provide a structured format for collaborative conferencing, observation and evaluation of clinical instructor behaviors during clinical education sessions, and a method to promote self-reflection and goal setting by the ACI as a means for improving upon the clinical education of athletic training students in an athletic training education program (ATEP). Similar to other allied health practitioners, ACIs approach teaching using the methods they received as athletic training students. The lack of preparation for the role of ACI impairs both student learning and quality control of patient care (Milne & Oliver, 2000).

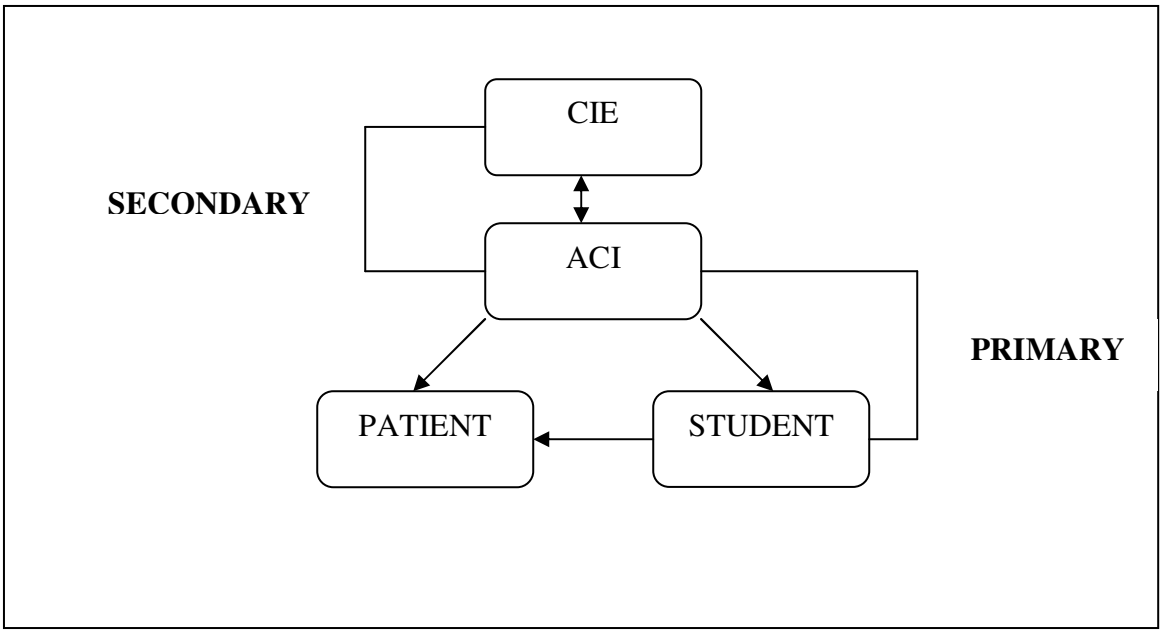


Figure 1: Hierarchy of Supervision in Athletic Training

The following questions will be addressed:

Research Question #1: Is there a relationship between the structured clinical supervision program and the use of effective ACI behaviors?

Hypothesis 1: There will be a positive relationship between the structured clinical supervision program and use of effective ACI behaviors.

Research Question #2: What is the perceived effectiveness of the structured clinical supervision program of the ACI?

The descriptive nature of the question does not lend itself to a stated hypothesis. The data will provide CIEs insight to the perception of ACIs in relation to the learning outcomes of the structured clinical supervision program.

To address the research questions the researcher developed and implemented a structured clinical supervision program for ACIs and examined its effect on clinical

instructor behavior in an athletic training education program (ATEP). An observation tool was used to evaluate the percentage of time the ACIs used effective clinical educator behaviors pre and post intervention. The observation tool was also used to provide feedback in conferencing concerning the use of specific clinical educator behaviors. A survey and semi-structured focus group interview were also conducted after the intervention to explore ACI perceptions concerning the effectiveness of the clinical supervision program and its individual components.

This study will provide information and insight on the value of using clinical supervision as a model for teaching/training ACIs to be more effective in their clinical education practice. More effective clinical education will enhance the preparation of athletic training students for professional practice.

Definition of Terms

Athletic Training Education Program (ATEP) - an educational program for individuals seeking to pursue a profession in athletic training that includes both didactic (content knowledge) and clinical education components.

Approved Clinical Instructor (ACI) – A credentialed medical, allied health professional or certified athletic trainer, who is identified and trained by the program CIE to provide instruction and evaluation of the Athletic Training Educational Competencies and/or Clinical Proficiencies. The ACI may not be a current student within the ATEP and must have at least one year of professional experience (CAATE, 2005).

Clinical Instructor Educator (CIE) – A BOC certified individual with at least three years of athletic training experience who is identified by the ATEP as the individual responsible for ACI training (CAATE, 2005).

Clinical Supervision – a collaborative process of conferencing between supervisor and supervisee to enhance the effectiveness of supervisee performance/behavior.

Limitations and Delimitations

The study was limited in several ways. The presence of a video camera may have influenced participant behavior inflating the behavior changes pre to post testing. The videographers were instructed to remain a minimum of a 6 foot distance from the participants to minimize the effect but still capture audio on the tape. The available video equipment did not lend itself to a microphone. Using video tape was a necessity to accurately record and code ACI behavior. The observational recording tool (ORCEB) required coding of 12 different ACI behaviors every 5 seconds, a difficult task if video recording was not used. The sample size was small (N=3), limited by the number of qualified ACIs supervising athletic training students at the time of the study. Although a semi-structured interview guide was used, the low number of participants impacted the amount of time spent by individuals discussing the questions posed by the researcher. This factor influenced the duration of the focus group interview lasting 20 minutes in length. The amount of time spent discussing questions may also have been affected by the nature of the participants' jobs creating an environment in which concern in returning to work responsibilities may have resulted in shorter responses. Individual personalities also affected the participant interaction/response to posed questions. A time delay of

approximately 8 weeks occurred between the end of the intervention and administration of the post-intervention survey and focus group interview. Due to the end of semester ACI job responsibilities and semester break it was not possible to schedule a time that all three participating ACIs could meet until after the semester break. This may have potentially affected ACI recall of perception at the time of the intervention.

The study had the following delimitations. The structured clinical supervision program was conducted over a four week period of time staggered over 6 weeks. A longer period of time would allow for ACI participants to practice new techniques for clinically educating students before a new observation session. The natural length of in-season sports at the time of the study and the necessity of having the presence of both ACI and athletic training students decreased the amount of weeks available for implementing the ACI training program. Only pre-practice sessions were videotaped for recording and coding of ACI behavior. This is a "snapshot" of ACI-athletic training student interaction, but was selected because it provided a more intimate setting where clinical education opportunities were more likely to be prevalent and/or emerge. Only paid ACIs (non-affiliate) were included as participants in the study. These individuals are required by their job description to function as ACIs and were more easily accessible to the videographers so travel time and expense was not incurred.

Independent and Dependent Variables

The independent variable for this study was the structured clinical supervision program and its components. All three ACI participants completed 5 cycles of planning conference (meeting with CIE to review and reflect on videotape and ORCEB results),

fieldwork observation (video tape and coding of ACI behavior during pre-determined pre-practice session), and post-conference (collaborating with CIE to determine new clinical education goals and methods of teaching to address the set goals). Although the CIE-ACI interaction may have varied due to personality and experience differences, the steps to the clinical supervision program were identical.

The dependent variables were the 12 clinical educator behaviors described by Dondanville (2005): patient care without student interaction, unrelated behaviors, passive observation with not student interaction, explaining, demonstrating, and referring to educational aids, corrective feedback, specific positive feedback, general praise, low-level questioning, high-level questioning, and peer learning. The behaviors were recorded and converted to a percentage of time on 5 separate occasions, using the first and fifth recordings as pre and post measures respectively.

CHAPTER II

LITERATURE REVIEW

Allied health and athletic training education programs provide students with an integrated approach to learning using both didactic and clinical components (Fauser, 1992; Knight, 2002; Weidner & Henning, 2002). Similar to the traditional allied health professions, athletic training underwent a period of stagnation adhering to an apprenticeship model of clinical experience, followed by an educational reform that led to a structured competency-based instruction and evaluation model referred to as clinical education (Knight, 2002; Toburen, 2002; Weidner & Henning, 2002).

The learning that arises from the clinical education experience is a direct resultant of the student's participation as a practitioner in the medical setting, under the supervision of an experienced professional who functions as a facilitator of learning, providing feedback and encouraging reflection (Tanner, 2006). The reliance on community-based practitioners as clinical instructors (CIs), however, has created the dilemma of a work force of educators who have a varying level of clinical experience, with no formal training in teaching (Gwyer et al., 2003; Strohschein et al., 2002). Several authors highlight the need for a formalized method for training and preparing allied health practitioners for the role of clinical instructor (Gwyer et al., 2003; Rothstein, 2002; Strohschein et al., 2002; Weber, 2005). Athletic training education faces the same dilemma:

> Because more athletic trainers are graduating from college without degrees in education, it cannot be assumed that they have benefited from courses in learning principles, educational methods, or evaluation. This void needs to be addressed because it is the responsibility of the clinical supervisors to serve as instructors and mentors (Toburen, 2002 p.S-220)

The purpose of this review of literature is to investigate the current practices in clinical education in allied health and athletic training education programs, the effective clinical educator, and clinical supervision and the supervisory relationship in education and allied health. The investigator will use the information to develop a clinical supervision program as a means to educate and train ACIs to become more effective clinical educators, improving upon the clinical education experience of the athletic training student (ATS), and ultimately enhancing the quality of athletic training clinical practice.

Clinical Education in Athletic Training

Historical Perspective. The athletic training profession sprouted as an apprenticeship model for learning a trade and evolved into a formal educational process that continues to develop and expand in response to social and medical transformation. As a first step toward establishing athletic training as an esteemed profession, the National Athletic Trainers' Association (NATA) was formed in 1950 (Delforge & Behnke, 1999; Weidner & Henning, 2002). In 1955, William E. Newell was named National Secretary of the NATA, and went on to establish the Committee on Gaining Recognition, a commission focused on advancing the profession (Delforge & Behnke, 1999). In 1956, the Committee began investigating paths for addressing its goal and determined that athletic training education and national certification were two integral steps to accomplishing the task. The proposed athletic training curriculum included

courses in pedagogy and coaching methods to emphasize the pursuance of a teaching credential to address the need for employment of athletic trainers in the high school setting (Delforge & Behnke, 1999). In 1959, the proposed educational program was approved by the NATA Board of Directors. Despite this monumental development, few colleges and universities engaged in athletic training education curriculums until 1969, when the NATA began to officially recognize undergraduate education programs in athletic training (Delforge & Behnke, 1999; Weidner & Henning, 2002).

The 1970s brought about curricular changes and a focus on clinical education as a component of athletic training education. The evolving curriculum centered on creating a more concentrated common body of knowledge for athletic trainers, including the 11 required courses named in Table 1, and required a minimum of 600 clinical clock-hours under the direct supervision of a certified athletic trainer (Delforge & Behnke, 1999; Weidner & Henning, 2002). The NATA Professional Education Committee endorsed a list of behavioral objectives to more formally identify learning outcomes for athletic training students, based on the 11 required courses (Delforge & Behnke, 1999; Weidner & Henning, 2002). These important steps provided a solid foundation for the development of the *Competencies in Athletic Training* developed in 1983 by the Professional Education Committee (Delforge & Behnke, 1999; Weidner & Henning, 2002). These competencies embodied a major component of the 1983 athletic training educational guidelines, and were based on the original NATA Board of Certification role delineation study conducted in 1982 (Delforge & Behnke, 1999; Weidner & Henning, 2002). The move to integrate a more specified subject matter and performance based

competencies into the 1983 guidelines sparked a transformation toward an authentic competency-based educational process (Delforge & Behnke, 1999; Weidner & Henning, 2002).

Table 1. Mid 1970s Athletic Training Curriculum Course Requirements

Anatomy (1 course)
Physiology (1 course)
Physiology of exercise (1 course)
Applied anatomy and kinesiology (1 course)
Psychology (2 courses)
First aid and safety (1 course)
Nutrition (1 course)
Remedial exercise (1 course)
Personal, community and school health (1 course)
Basic athletic training (1 course)
Advanced athletic training (1 course)

Recent Trends. Over the last 25 years, the NATA has continued to provide the necessary guidelines for athletic training educational programs to enhance the clinical components of their programs (Weidner & Henning, 2002). Educational effectiveness for institutions of higher education is targeted as a major goal for many educational, regulatory, and governmental organizations. The process of accreditation serves to provide structure and format for guiding, assessing, and improving the quality of educational programs (Fauser, 1992; Nieland & Harris, 2003). The various accrediting bodies address areas such as "…program effectiveness, institutional effectiveness, accountability, and expectations of external publics (Fauser, 1992 p.2)." Governing allied health organizations create minimum standards and guidelines for programs seeking accreditation or re-accreditation as a practice for assuring compliance with the

expectations of accrediting bodies(Fauser, 1992; Nieland & Harris, 2003; Weidner & Henning, 2002).

In order to obtain credibility and accountability with the public and other allied health professions, the NATA sought out accreditation, starting with the development of standards and guidelines for accreditation of entry-level educational programs in athletic training in October 1990, following the recognition of athletic training as an allied health profession by the American Medical Association (AMA) (Weidner & Henning, 2002).

In June 1991, the first standards and guidelines were approved and adopted by the NATA and the Commission on Accreditation of Allied Health Education Programs (CAAHEP), formerly the AMA's Committee on Allied Health Education Accreditation (CAHEA) (Weidner & Henning, 2002). These standards and guidelines were updated by the Joint Review Committee in Athletic Training (JRC-AT) in 2001 and adopted by CAAHEP the body which accredited entry-level athletic training programs for athletic training following the recommendation of the JRC-AT at that time (Weidner & Henning, 2002).

Effective June 30, 2006, the JRC-AT became independent from CAAHEP, and the Commission on Accreditation of Athletic Training Education (CAATE) became the recognized accrediting agency for athletic training education programs (CAATE, 2006). As a former member of CAAHEP, the JRC-AT was recognized by the Council on Higher Education Accreditation (CHEA) and The Assoiation of Schools of Allied Health Professions (ASAHP), and a member of the Association of Specialized Professional Accreditors (ASPA). (CAATE). CAATE completed its application to become an

independent member of ASPA in 2007, and began the necessary steps for CHEA-recognition over the next few years (CAATE). The new JRC-AT/CAATE continue to be sponsored by the American Academy of Pediatrics (AAP), the American Orthopedic Society for Sports Medicine (AOSSM), and the NATA working in partnership to develop the *Standards for Entry-Level Athletic Training Educational Programs* (CAATE; Weidner & Henning, 2002). The *Standards* include objective criteria, academic requirements, and programmatic outcomes for the evaluation of ATEPs (CAATE).

A special Education Task Force was established in 1994 and created 18 initiatives focused on athletic training educational reform. These initiatives were approved by the NATA Board of Directors in 1997, and assigned to the newly created Education Council for implementation (Weidner & Henning, 2002). In 1997, the NATA Educational Council formed a Competencies Committee to review and expand the NATA competencies in athletic training (Delforge & Behnke, 1999; Weidner & Henning, 2002). Following the second revision of the *Competencies*, the athletic training content areas increased from 6 to 12 (Table 2) and included clinical proficiencies developed by the NATA Educational Council as a means to describe required athletic training knowledge into measurable clinical skills (Delforge & Behnke, 1999; Weidner & Henning, 2002).

Table 2. 2006 Athletic Training Educational Competencies Content Areas

Risk Management and Injury Prevention
Pathology of Injuries and Illness
Orthopedic Clinical Examination and Diagnosis
Medical Conditions and Disabilities
Acute Care of Injuries and Illnesses
Therapeutic Modalities
Conditioning and Rehabilitative Exercise
Pharmacology
Psychosocial Intervention and Referral
Nutritional Aspects of Injuries and Illness
Health Care Administration
Professional Development and Responsibility

Concurrent with the development of the latest role delineation study was the fourth edition of the *Athletic Training Educational Competencies*, a document that provides athletic training educational programs with a current guide for the development of didactic and clinical experiences (NATA, 2006; Weidner & Henning, 2002). Five role delineation studies have been conducted by the NATA Board of Certification since 1982, with the most recent in 2004. The purpose of the role delineation study is to classify knowledge and skills essentials to the athletic training profession and provide a basis for certification examination development (BOC, 2004). The Educational Council uses the results of the role delineation study to assist in the development of the *Competencies* for athletic training education (NATA, 2006)The *Educational Competencies* and *Clinical Proficiencies* are embedded in the 2005 *Standards for Entry-Level Athletic Training Educational Programs* to demarcate the learning content necessary for an entry-level athletic trainer (CAATE). By continuing to revise these documents, the NATA identifies knowledge and skills essential for the effectiveness in providing athletic training services

current with the demands of the athletic training profession of today (NATA, 2006; Weidner & Henning, 2002).

Three other reform initiatives that were integral to the overall goals of enhancing the credibility of athletic training in the allied health care professions and ensure the quality of athletic training education were the elimination of an internship route to certification, the amendment to the Essentials and Guidelines for an Accredited Educational Program for the Athletic Trainer to include a guideline for professional training in the role of clinical instructor for certified athletic trainers, and the inclusion of different clinical settings within the clinical education plan (CAATE, 2005; Weidner & Henning, 2002).

Prior to 2004, students wishing to pursue a national certification in athletic training could choose between two types of programs, and internship and curriculum. The internship route led to an inconsistency in the preparation of entry-level athletic trainers under the new standards (Delforge & Behnke, 1999; Weidner & Henning, 2002). Appropriate clinical education calls for a systematic and structured approach to learning, not merely an attainment of practical skills used in the service of athletes (Knight, 2002; Toburen, 2002; Weidner & Henning, 2002). The new BOC certification-examination eligibility requirements mandated that all students must complete a CAAHEP-accredited (now CAATE), starting in 2004, aligning the credentialing process with other allied health professions and providing only one route for athletic training certification (Delforge & Behnke, 1999; Starkey, 1997; Weidner & Henning, 2002).

The NATA also recognized the phenomenon of practicing athletic trainers with no or little knowledge of pedagogy functioning in the role of clinical instructor for athletic training students in the field experience, and recommended that the new guidelines stipulate professional training for certified athletic trainers functioning in the role of clinical instructors (Delforge & Behnke, 1999; Toburen, 2002; Weidner & Henning, 2002, 2002, 2004). The designation of Approved Clinical Instructor (ACI) was formally adopted and included in the 2001 revised accreditation standards and guidelines, while Clinical Instructor Educator (CIE) seminars were developed and implemented in June 2000 under the direction of the Clinical Education Subcommittee of the NATA Education Council (Walters, 1999; Walters & Weidner, 2002; Weidner & Henning, 2002). The purpose of the seminars is to equip qualified personnel, program directors or clinical-education coordinators, with information and resources appropriate to serve as CIEs in their ATEP, and effectively train ACIs to teach and evaluate the athletic training clinical proficiencies (Walters, 1999; Walters & Weidner, 2002; Weidner & Henning, 2002). The overriding mission of the seminars is to "provide a model for the consistent delivery of athletic training clinical education while promoting institutional autonomy (Walters & Weidner, 2002)." The CIE seminar has been revised and updated from its original offering and now includes the instruction and discussion of the areas listed in Table 3 (Walters & Weidner, 2002). Following the seminar, it is the responsibility of the CIE to provide an initial workshop that includes the required core content presented in the seminar and information designed to meet the needs of the individual program; the workshop must be at least 5 hours in length (Walters & Weidner, 2002). To assure a

consistent delivery of athletic training clinical education, the CIE is required to conduct ACI training at least once every three years for a time period of no less than 3 hours (Walters & Weidner, 2002).

Table 3. CIE Seminar Content Areas

Perspectives for the Coordinator of Clinical Education
Learning over time
Selection of clinical settings and clinical instructors
Student performance and evaluation
Evaluation of ACI and clinical settings
Challenges in clinical education
Perspectives for the ACI
Roles and responsibilities of the program
Roles and responsibilities of the ACI
Teaching and learning styles
ACI challenges
Student and Time management challenges
One Minute Preceptor
ACI workshop development

A third important initiative resulted in the expansion of the *Athletic Training Educational Competencies* to include the addition of health care knowledge and skills that were appropriate to the growing diversity of the athletic training patient population and employment opportunities (McMullen, 1997; Starkey, 1997, 2002; Toburen, 2002). To address the need for clinical education in both the traditional and non-traditional athletic training settings, the 2001 CAAHEP standards and guidelines included a recommendation to incorporate clinical experiences in athletic training rooms, clinics, hospitals, and other appropriate health care settings (CAAHEP, 2001; Weidner & Henning, 2002). The current CAATE standards require opportunities for students to practice with diverse patient populations in varied athletic and allied health care settings

(CAATE, 2005). The new educational model prepares the athletic trainer for the expectations of the healthcare community beyond traditional athletic training settings (Starkey, 1997).

Clinical Education in Allied Health Fields

Fieldwork, the clinical education component of allied health education programs, continues to be the hallmark for bridging theory into practice and preparing the student for professional practice. Clinical education evolved from the apprenticeship model where students learned through practice in educational programs that were "hospital-based" (Gwyer et al., 2003). This form of experiential learning has since developed into a diverse practice of supervised education that relies on relationships between academic institutions and community clinical sites, but has experienced little change in recent times (Aiken, Menaker, & Barsky, 2001; Gwyer et al., 2003; Strohschein et al., 2002; Tanner, 2006).

In a majority of cases, students are placed in clinical settings and assigned one to two patients (Buccieri et al., 2006; Tanner, 2002, 2006). This component of the educational program challenges the student to apply knowledge and skills learned in the classroom to a patient in the clinical setting under the guidance of a licensed allied health practitioner, the clinical instructor (CI) (Buccieri et al., 2006; Tanner, 2002, 2006). "Teaching, learning and assessing are crucial aspects within the clinical environment as they generate the evolution of knowledge and skill ensuring the development of competent practitioners (Lambert & Glacken, 2005 p.665)." Effective clinical education provides an environment in which the student learns to integrate knowledge while

developing both professional and practitioner skills in a quest to become effective in the management of patient care in diverse settings (Buccieri et al., 2006).

"In any educational program the most important single factor for success is the instructor (Whitcomb, 1951 p.129)." Although certainly the instructor plays a vital role in education, successful clinical education is dependent on the roles and relationships between students and clinical educators (Kachur, 2003; Lambert & Glacken, 2005; Peer, 2003; Strohschein et al., 2002). Theory indicates that through the structured and intentional changing of roles during the clinical education experience, both technical and non-technical competencies necessary for effective practice may be developed (Strohschein et al., 2002).

The Effective Clinical Educator. Teaching involves the use of a variety of techniques in order to impart knowledge and skill to the student. Clinical teaching, however, differs from the traditional model of didactic instruction, requiring specialized practitioners to use skill sets not automatically secured from competence in one's clinical area (Hancox et al., 2004; Morgan, 1991; Weidner & Henning, 2002). Whitcomb (1951) expressed the importance of quality clinical instruction as a strong factor for the development of the students' clinical practice experience and future attitudes toward work. Effective clinical teaching is a facilitative activity shared between the CI and student involving a collaborative effort toward a measurable change of student knowledge and/or skill in the clinical setting, not an act of observation or an unsupervised experience (Lee, Cholowski, & Williams, 2002; Morgan, 1991; Weidner & Pipkin, 2002). Motivation and enthusiasm of students decrease when the emphasis of the clinical

experience is rooted in service rather than education, while boredom becomes the result of direct observation (Morgan, 1991; Weidner & Pipkin, 2002).

Effective clinical educators need to provide structured experiences that encourage active observation and provide opportunities that lend themselves to educational activities designed to foster student learning in the clinical setting (Kachur, 2003; Morgan, 1991). Although clinical expertise is a necessary qualification for an effective clinical educator, other factors including outstanding personal characteristics, and knowledge and skill in teaching are integral to supporting a positive clinical education experience (Lee et al., 2002; Sloan, 1999; Weidner & Henning, 2002). Weidner and Henning (2002) performed a literature review of allied-medical-professions and identified qualities and characteristics that were pertinent to developing effective clinical instructors (see Table 4). In addition to a broad knowledge of clinical expertise and teaching, successful clinical instruction requires a balancing act of clinical teaching and patient care relying heavily on the CIs desire to teach (Weidner & Henning, 2002; Whitcomb, 1951).

Table 4. Categories of Qualities, Characteristics, and Skills of Effective CIs

Legal and Ethical Behavior
Communication Skills
Interpersonal Skills
Supervisory Skills
Instructional Skills
Evaluation and Assessment Skills
Clinical Competence
Administrative Skills
Professional Development

Supervision and Clinical Supervision in Medical-Allied Health Clinical Education

The roots of supervision in the nursing field originate from psychoanalytic theory, with models adopted from the areas of psychotherapy, counseling, social work, and education (Kilminster & Jolly, 2000; Wilson, 1999; Yegdich & Cushing, 1998). Several of the supervision models used for clinical education in the medical-allied health professions, such as mentorship and preceptorship, focus on enhancing the professional development of the student practitioner, whereas clinical supervision follows a peer supervision approach seen at multiple levels of supervision (Morton-Cooper & Palmer, 2000; Playle & Mullarkey, 1998). Confusion with the definition of clinical supervision is still present and stems from the misuse of the term, often using it interchangeably with supervision. The universal characterization describes clinical supervision as a convention in which practicing professionals share experiences to promote professional growth and assure patient safety (Kilminster & Jolly, 2000; Morton-Cooper & Palmer, 2000; Yegdich & Cushing, 1998). Bond and Holland (1998) provide a definition that helps to clarify both the purpose and process of clinical supervision as:

> …regular protected time for facilitated, in-depth reflection on clinical practice. It aims to enable the supervisee to achieve, sustain and creatively develop a high quality of practice through means of focused support and development. The supervisee reflects on the part she plays as an individual in the complexities of the events and the quality of her practice. This reflection is facilitated by one or more experienced colleagues who have expertise in facilitation and the frequent ongoing sessions are led by the supervisee's agenda (p. 54).

Debates surrounding the definition of clinical supervision relate to the inclusion or exclusion of hierarchy (managerial) and evaluative components (Morton-Cooper &

Palmer, 2000; Wilson, 1999; Yegdich & Cushing, 1998). Although the term "clinical supervision" refers to a supportive and developmental process, some medical practitioners regard it as having connotations of performance management (Clark, Jamieson, & Launer, 2006). Perhaps clinical supervision would be better understood if it were viewed as a collaborative consultation; an interactive process that allows people to share their expertise to create solutions for defined problems (Bedward & Daniels, 2005). It is important for allied health practitioners to better understand the purpose and general process of clinical supervision and to create models that describe the clinical supervision process in a more descriptive and detailed form.

Clinical Supervision in Teacher Education

Similar to the preparation of pre-service athletic training students, teacher education programs also rely on field experiences as an integral part of teacher preparation placing students in the classroom in order to prepare them as effective and competent teachers (Clifford et al., 2005). Akin to clinical education, pre-service teachers rely on input from their classroom supervisor and cooperating teacher for feedback and guidance on their performance and progress through a supervisory process. One common model used in teacher education is clinical supervision, a collaborative process that allows for face-to-face contact that develops empowerment and trust as the teachers examine their own teaching practices (Acheson & Gall, 1987; Clifford et al., 2005; Kent, 2001). Clinical supervision recognizes the need for evaluation, but primarily emphasizes professional development, improving one's own instructional performance, as its focus (Acheson & Gall, 1987). There are five goals of clinical supervision: 1) to provide

teachers with objective feedback on the current state of their instruction; 2) to diagnose and solve instructional problems; 3) to help teachers develop skill using instructional strategies; 4) to evaluate teachers; and 5) to help teachers develop a positive attitude about continuous professional development (Acheson & Gall, 1987).

Goldhammer first provided a framework for clinical supervision in the 1960s by introducing a five-step process of clinical supervision which included a pre-observation conference, the observation, the analysis and strategy, the supervision conference, and the post-conference analysis (Clifford et al., 2005; Goldhammer, 1969). Using the same philosophy and principles from the original model, Acheson and Gall (1987) developed a three phase model of clinical supervision which was comprised of a planning conference, classroom observation, and feedback conference. This systematic process of clinical supervision emphasizes field experience observation of both student and teacher behavior, and the provision of feedback as a means to promote improved teaching (Kent, 2001).

The Planning Conference. The process of clinical supervision begins with a conversation between the supervisor and supervisee to clarify their perceptions in relation to the process, personal concerns, needs, and aspirations of the supervisee in relation to their practice/teaching skills (Acheson & Gall, 1987; Sloan, 2005; Studer, 2005). The discussion should center on illuminating a clear picture of the supervisee's current level of teaching skill and what is perceived to be ideal (Acheson & Gall, 1987; Studer, 2005). The supervisor uses facilitative questioning to encourage reflective thinking on clinical educator behavior (Studer, 2005). Next, an exploration of techniques is carried out to

address areas in need of improvement, calling for the supervisee to reflect on current practices and the effectiveness of their instructional performance and translate concerns into observable behaviors (Acheson & Gall, 1987; Studer, 2005). Once an agreement is reached on the educator's current level of practice, the supervisee works with the supervisor to set clear goals, develop a time-line, identify methods for collecting observational data, select specific behaviors to be observed, and decide on methods of data analysis (Acheson & Gall, 1987; Sloan, 2005; Studer, 2005).

The planning conference does not require a large time commitment; the initial meeting may take 20-30 minutes, while follow-up sessions may only last 5-10 minutes (Acheson & Gall, 1987). The conference should be held at a neutral site, one in which the teacher will not feel intimidated; it is important for the atmosphere to friendly and amenable to open discussion without the fear of "evaluation" (Acheson & Gall, 1987; Kent, 2001; Sloan, 2005).

Fieldwork Observation. During this phase of clinical supervision, direct and/or indirect methods of observation are used to provide educators with indicators of performance (Acheson & Gall, 1987). Indirect methods would include information that demonstrates student performance, such as test results or skills checklists, or subjective evaluation of teacher behavior through the use of surveys administered to the teacher and to the students (Acheson & Gall, 1987). Direct observation may include video recording, audio recording, or physical presence as a means for gathering objective data (Studer, 2005). Techniques of direct observation require the clinical supervisor to maintain a written record of specific teaching skills decided upon during the planning conference

(Acheson & Gall, 1987; Goldhammer, 1969). The specific technique may range from selective verbatim, a written record of what the teacher actually said, to the use of timeline coding, using an observational record of specific teaching behavior that is recorded at specified intervals of time, usually measured in seconds (Acheson & Gall, 1987). These records would then be analyzed using steps appropriate to the data gathering technique, such as examining the written record of selective verbatim for types of questioning or amount of information provided, and providing frequency of use of specific teaching behaviors recorded in a timeline observational record (Acheson & Gall, 1987).

The Feedback Conference. Following the analysis of objective data gathered, the supervisor and supervisee collaborate to provide interpretation of the information (Acheson & Gall, 1987). Together they look for probable causes and consequences of observed behavior, as well as alternate suggestions (Acheson & Gall, 1987). For example, data may indicate that an ACI spent 40% of the clinical experience providing patient care with no student interaction. Although observation provides some learning opportunity, if the experience does not include active learning, the student is likely to become bored and uninterested (Morgan, 1991; Weidner & Pipkin, 2002). The CIE and ACI would discuss possible alternatives for encouraging active learning and more student involvement. These changes in teaching practice initiate the discussion of new goals and start the supervisory cycle over with the planning phase (Acheson & Gall, 1987).

The Supervisory Relationship

The role of the supervisor in clinical supervision is dominant, it is imperative that the supervisory relationship promote a tension-free interpersonal rapport (Kent, 2001; Lauber et al., 2003; Sloan, 2005). Anxiety may be experienced by either party of the relationship. The supervisee often seeks approval and feels inadequate if unable to perform without error, while the supervisor may struggle by placing pressure for the unfounded responsibility of improving the supervisees work environment (Sloan, 2005). The exploration of the supervisory relationship has revealed many factors that influence its success or demise: 1) supervisor adherence to ethical guidelines;
2) supervisee satisfaction; 3) supervisor self-disclosure; 4) supervisor-supervisee racial identity interactions; 5) supervisee experience of role conflict and role ambiguity; and 6) supervisory style (Ladany, Walker, & Melincoff, 2001). The supervisory relationship and supervisor's characteristics have been touted as "key" to effective clinical supervision (Ladany et al., 2001; Sloan, 2005). Successful supervision takes place when the supervisor uses a style that promotes a supportive relationship and includes the following characteristics: 1) provision of specific ideas concerning clinical and educational practice; 2) providing feedback on performances; 3) promoting supervisee autonomy; and 4) being a competent practitioner (Ladany et al., 2001; Sloan, 1999, 2005; Studer, 2005).

Ladany, Walker, and Melincoff (2001) describe three styles of supervision: 1) attractive – warm, friendly, open and supportive toward supervisees; 2) interpersonally sensitive – invested, therapeutic, and perceptive when working with supervisees; 3) and task-oriented – focused, goal-oriented, and structured during clinical supervision. The

authors (Ladany, Walker, & Melincoff, 2001) contend that selection of supervisory style may be dependent on the characteristics of the supervisee. Several authors support that the supervisory relationship is developmental and that the approach to supervision should match accordingly (Acheson & Gall, 1987; Clifford et al., 2005; Ladany et al., 2001; Morton-Cooper & Palmer, 2000; Studer, 2005).

In the early stages of the supervisory relationship, a more directive approach may be necessary, providing both support and assistance in the process of analyzing data and setting goals (Acheson & Gall, 1987; Clifford et al., 2005; Morton-Cooper & Palmer, 2000). During the middle stages the supervisee's feelings may oscillate between self-confidence and self-doubt, the role of supervisor is to use a more collaborative approach during the conferencing encouraging the supervisee to reflect upon his own teaching practice (Clifford et al., 2005; Studer, 2005). During the later stages, the supervisee gains confidence and the supervisor functions in the role of consultant, actively listening and continuing to encourage the supervisee to become more autonomous in the problem solving process (Clifford et al., 2005; Studer, 2005).

The Benefits of Clinical Supervision

The benefits of clinical supervision stem from the cooperative efforts of both supervisor and supervisee (Kilminster & Jolly, 2000; Morton-Cooper & Palmer, 2000; Yegdich & Cushing, 1998). Morton-Coooper and Palmer (2000) identify several benefits when clinical supervision is effective in a service-oriented profession: self-awareness, self-development, development of understanding, development of skill, development of personal standards, development of accountability, and the development of professional

ethics. Additional benefits identified in the research include: enhancement of patient care, sharing of ideas, improved teamwork, promotion of reflective practice, an exploration of different techniques, improved communication, improved focus on patient service, improved self-confidence, and a reduction in stress (Acheson & Gall, 1987; Cutcliffe & McFeely, 2001; Morton-Cooper & Palmer, 2000; Sloan, 1999, 2005).

The Limitations of Clinical Supervision

The limitations of clinical supervision are similar to those of other allied health models of supervision. Too often, the term clinical supervision is used synonymously with the term supervision even though it is a model of supervision. A standardization of supervision terminology is necessary for a clearer comprehension of each mode of supervision and its characteristics (Morton-Cooper & Palmer, 2000; Wilson, 1999). Lack of training for the development of clinical supervisors and clinical supervision programs also limits the effectiveness of clinical supervision (Driscoll & Cooper, 2005; Morton-Cooper & Palmer, 2000; Sloan, 2005; Weidner & Henning, 2004). Clinicians are placed in dual roles of practitioner and educator with little preparation for the latter responsibility, creating a sense of both role conflict and anxiety (Acheson & Gall, 1987; Driscoll & Cooper, 2005; Sloan, 2005).

Reflection

The fundamental purpose of reflection is to get practitioners/teachers in the habit of thinking about their professional experiences (Costa & Kallick, 2000; Price, 2004; Schon, 1983). Clinical educators explore alternative scenarios to address issues in which they encounter using insight from professional knowledge and experience and the shared

experiences from their peers (Costa & Kallick, 2000; Price, 2004; Schon, 1983). Costa and Kallick (2000) suggest that the act of reflection in practice provides opportunity for: 1) providing meaning for one's practice via insight of peers; 2) applying meaning beyond a specific incident; 3) committing to experimentation, modification, and planning of professional practice; and 4) documenting learning and sharing knowledge. The purpose of clinical supervision is to collaborate in an effort to improve professional practice through analyzing current behavior. Reflection as a component of clinical supervision enables one to construct knowledge about themselves and their practice (Fowler & Chevannes, 1998; Liimatainen, Poskiparta, Sjogren, Kettunen, & Karhila, 2001). The use of reflective practice encourages one to ask questions concerning the description of the experience, the goals and consequences of actions taken, the identification of influential factors in the decision making process, and what is learned from the experience (Liimatainen et al., 2001).

Systematic Observation

Teaching analysis is an integral part to the evaluation and improvement of teaching behavior in the teaching-learning environment (Lacy & Darst, 1984; Siedentop, 1972; Taylor & Yun, 2006). Systematic observation is a field-based method of assessment that allows a trained individual to follow specified guidelines and coding procedures to observe, record, and analyze teaching behaviors in the practice setting (Bloom, Crumpton, & Anderson, 1999; Brewer & Jones, 2002; Taylor & Yun, 2006). Observer systems can be used for multiple purposes: 1) describing educational practices, 2) modifying educator behavior, 3) provide a tool for analyzing educational practices, 4)

provide feedback of educator behavior, 5) training novice teachers, and 6) facilitate educator behavior change (Cheffers, 1977). “Systematic observation provides such an efficient picture of interactive patterns that process adjustments are possible, enhancing and enriching the entire learning environment” (Cheffers, 1977 p. 18). Interval recording is used to record behavior using categories that represent clearly defined behaviors (Martin & Pear, 1983). Data collections are made for short time intervals, and then used for calculating the interval percentages for each behavior and percentage of time spent in the use of each behavior (Lacy & Darst, 1984)

Stimulated Recall

Stimulated recall (SR) is an introspective procedure that has been used in educational research in teaching and medical-allied health professions (Lyle, 2003). The method involves playing back pre-recorded videotaped passages of professional practice to stimulate reflection on the meaning behind one’s actions and behavior (Lyle, 2003). A recall technique is used to facilitate the practitioner’s thinking behind the episode being replayed using a series of structured open-ended questions during or directly after the recall session (Lyle, 2003). The purpose behind this technique is to stimulate reflective thinking about professional practice. Questions typically focus on encouraging the practitioner/educator to discuss behavior presented in the videotape by a process of description, thinking, noticing, and provision of alternative action (Lyle, 2003). “Working with a mentor may be a more productive experience if individual model of cognitive organization of mentor and mentee are established and compared through SR

techniques (Lyle, 2003 p.874).” Interactive teacher/practitioner behavior is well suited for the use of SR as an educational tool (Lyle, 2003).

In order to improve upon the education of ATSs, the NATA has taken big steps by creating only one route to national certification, standardizing athletic training education programs through accreditation, and describing a very specific athletic training body of knowledge through the development and continued revitalization of the Athletic Training Educational Competencies and Proficiencies. These actions have led to an improved educational curriculum, however a key problem in allied health and athletic training education centers on the dilemma of clinical practitioners functioning in a secondary role as clinical educator with no formal training or education in pedagogy. If clinical education is the experience that fosters the bridging of theory to practice, it is imperative to find ways to educate and train the ACI in teaching in the clinical setting to assure quality in clinical education and ultimately the graduation of quality athletic training practitioners.

CHAPTER III

METHODOLOGY

The purpose of this research was to determine the effects of a structured clinical supervision intervention on approved clinical instructor (ACI) behaviors in an accredited athletic training education program (ATEP). The researcher developed a four week intervention program, conducted a pilot study using one cycle of clinical supervision, and completed the full-scale study with all four cycles. The overall purpose of the intervention was to educate ACIs about effective clinical education, to promote individual reflective practice, and increase ACI use of effective clinical educator behaviors.

Intervention Development

The development of the clinical supervision intervention was based on the key components of effective clinical supervision and the strategies and philosophy currently used in the fields of education and allied health (nursing, physical therapy, counseling, occupational therapy, etc.). It was clear from the literature that confusion surrounds the term "clinical supervision" and no "one" supervision model is being used in clinical education. Much of the research also indicated the importance of reflection as a means to behavior change. The intervention was developed based on Acheson and Gall's (1987) model of clinical supervision to provide a structured learning experience, and

incorporated the use of an observation tool and video recording to provide feedback and promote reflection.

The planned intervention included six discrete stages (see Table 5) over a 4-week period, including a pre and post evaluation stage. Stages two through five of the planned intervention involve four cycles of clinical supervision (planning conference, field experience observation, and feedback conference).

Each stage of the 4-week intervention focused on one group of the clinical educator behaviors as described by Dondanville (2005): 1) physical presence at the clinical site - direct patient care without student interaction, behaviors unrelated to clinical education, and silent observation of student; 2) teaching behaviors that give information - explanation, demonstration, and reference to educational aids ; 3) teaching behaviors that evaluate students - corrective feedback, positive feedback, or general praise; and 4) questioning behaviors that promote problem solving and critical thinking – low-level questioning, high-level questioning, peer coaching and/or learning activities. The progression of stages is based on the difficulty of the skills in each behavior category.

The Observational Record of Clinical Educator Behavior (ORCEB) developed and validated by Dondanville (2005) was used for the recording of clinical educator behaviors every 5 seconds. (See Appendix A). The ORCEB was used to provide feedback to ACIs during the conferencing sessions and was coded from videotape of the field experience sessions.

Table 5. Outline of Planned Intervention Stages

- Stage 1
  - Pre-intervention Informational Group Meeting
  - Pre-intervention Evaluation
    - ORCEB
- Stages 2-5
  - Planning Conference
    - Goal Setting
      - Stage 2 – Physical Presence
      - Stage 3 – Information Giving
      - Stage 4 – Student Evaluation
      - Stage 5 – Problem Solving and Critical Thinking
  - Field Observation
    - Videotape/ORCEB
  - Feedback-Conference
    - Stimulated Recall
    - Reflection
    - Set goals for next stage
- Stage 6
  - Post-intervention Evaluation
    - ORCEB
    - Post-intervention survey
    - Post-intervention focus group intervention

Pilot Intervention Procedures

A pilot study of the intervention was conducted in the fall semester 2005. The study incorporated only one cycle of the clinical supervision intervention over a one week period, and was evaluated using the observation tool pre and post to determine if change in use of effective clinical instructor behavior in the four behavior categories resulted after one week of intervention. The pilot also allowed the researcher to practice conferencing and video-recording techniques.

The site used for this study was a local high school athletic training room. The athletic training room was selected as the target site for videotaping because the

likelihood for learning opportunities and contact time is increased during the pre-event preparatory period.

The participants included the ACI employed as an athletic trainer by the county school system, and one student enrolled in the athletic training education program at a local university. The ACI is a former graduate from the local university who has completed a master's degree, worked as an ACI in another university, and been employed by the county school system for three years. The student is a first semester senior in the athletic training program.

For the purpose of the pilot and due to time constraints, only one cycle of the clinical supervision intervention looking at all four behavior categories was used. First, clinical practice observation was used to gather information to be discussed during the planning period and provide pre-intervention data. A video camera was set up in the high school athletic training room to capture a one-hour session of pre-practice activity (treatment and clinical education). The videotape was coded using the Observation Record of Clinical Educator Behaviors to identify behaviors used and their frequencies during the pre-practice period. The ORCEB data provided useful information for a planning conference session to cooperatively (ACI and CIE) look at ACI behavior, determine areas of concern and develop a plan of action for implementing a change in current practices.

During the planning conference, stimulated recall provided the ACI with visual feedback on his clinical education practices. The ACI had control of the VCR remote while viewing the video tape, and stopped the video at any point if he had comments,

concerns, or questions to voice. The CIE and ACI discussed these issues to assist the ACI in reflecting upon his reasoning for performing or omitting a particular behavior during the recorded session. At the end of the session, all of the effective clinical educator behaviors were discussed, and the CIE and ACI worked together to create specific clinical educator goals, and strategies to meet them.

Three days following the conference session, the ACI was once again videotaped during a clinical education session. The tape was coded using the ORCEB to determine frequency of use of effective clinical educator behaviors. The ACI decreased in the category of asking questions of low-order thinking, but increased in the area of high-order questioning. Positive changes were noted throughout all behavior categories, with an increase in physical presence and a decrease in unrelated behaviors (see Table 6).

	Pre-Conference Behavior			Post-Conference Behavior		
	Total Time (sec)	Total Time (min)	Percentage of Total Time	Total Time (sec)	Total Time (min)	Percentage of Total Time
Unrelated Behaviors	1070	17.83	68.6	280	4.67	17.9
Actively Observes	310	17	19.9	745	12.42	47.8
Gives Patient Care	150	2.5	9.6	305	5.08	19.6
Low-level Questions	30	0.5	1.9	0	0	0
High-level Questions	0	0	0	115	1.92	7.4
Demonstrates	0	0	0	95	1.58	6.0

Table 6. Use of Effective Clinical Educator Behaviors Pre and Post Conference

A feedback conference was held two days later to discuss the results of the ORCEB data. The ACI was pleased with the new results and made new goals and strategies for future clinical education practice with the input and assistance of the ACI.

The pilot study of the structured clinical supervision intervention showed promise in promoting the use of effective clinical educator behaviors in athletic training with a 50.7% decrease in unrelated behaviors, and a corresponding increase in the time spent in other areas of ACI behavior. Although no recommendations are published for percentage of time spent using ACI behavior, those unrelated to athletic training practice and the clinical education of students should be kept to a minimal. Multiple work duties and personal responsibilities are expected to impact how time is spent, however, these should not become the norm for ACI behavior. The goal should be to balance where ACI time is spent, providing moments of supervised autonomy while focusing on active learning.

Some problems that arose during the study included camera placement and difficulty in coordinating schedules. To address these problems in the research project, the researcher used a digital video camera and instructed the videographers to remain at least 6 feet from the ACI so that they did not intrude upon his/her practice. This allowed all ACI activity to be recorded in comparison to a stationary camera, capturing all angles and a louder and clearer audio recording. Coordinating schedules is generally a difficult task. To provide structure and assure that conferencing is occurring at regular intervals, the researcher scheduled all conferences after the ACIs agreed to participate in the full intervention study, but prior to the initiation of the intervention.

Study Methods

Participants. The focus of the study centered on the behavior of ACIs, however, due to the inclusion of videography three groups of participants were part of the study, ACIs, athletic training students (ATS), and athletes receiving treatment, the triad involved in athletic training clinical education. Three ACIs (2 males, 1 female) employed as full-time faculty in a CAATE-accredited program volunteered to participate in the study. The participants varied in experience as an ACI, with 12 years, 4 years, and 1 year. Eleven ATS (5 junior, 6 sophomores, comprised of 9 females, 2 males) and 31 student-athletes also volunteered and agreed to be videotaped as part of the study. All of the participants were informed orally about the research procedures and read and signed consent forms for participation of human research studies before videotaping. (Appendix B). This study was approved by the institutional review board.

Videographers. Two videographers were secured by the investigator to videotape ACIs when they were clinically educating athletic training students in the field experience. One videographer was a tenured faculty member familiar with the use of videography for the evaluation of student physical education teachers and the video equipment (Canon ZR100 Mini DV digital video camcorder and Sony DVM60 premium digital videocassette). The second videographer was a graduate student who met with the veteran videographer to train on the use of the video equipment. Prior to videotaping, both met with the primary investigator to review videotaping procedures. By securing individuals not associated with the ATEP and instructing the videographers to keep a distance of no closer than 6 feet from the ACIs, the researcher was able to minimize the disruption of the clinical setting.

Instruments. Two different measures were used to gauge changes in ACI behavior and perception in relation to the use of clinical educator behaviors. The ORCEB was used to measure the percentage of time the ACI participants demonstrated identified clinical educator behaviors (Appendix A). A post-intervention survey having both scaled-item and open-ended questions were conducted to code changes in ACI perception in relation to their role as a clinical educator of athletic training students.

The Observational Record of Clinical Educator Behavior (ORCEB) is an observational tool developed and validated by Dondanville (2005) for evaluating the use of effective clinical educator behaviors by ACIs working with students in the field experience (Appendix A). The first category on the ORCEB, Physical Presence, is the one category that does not promote active learning. The three behaviors listed under this

category are patient care without interacting with a student (T), behaviors unrelated to clinical education (X), and silent observation of a student (O). The remaining three overarching categories (Information, Evaluation, and Questioning) all promote clinical education through active learning experiences. Teaching behaviors that give information include explaining (E), demonstrating (D), and referring to teaching aids (A). Teaching behaviors that evaluate students encompass corrective feedback (C), specific positive feedback (F), and general praise (P). Questioning behaviors that promote problem solving and critical thinking are low-level questioning (L), high-level questioning (H), and peer coaching and learning activities (S). (Dondanville, 2005).

The ORCEB was used to code behaviors every 5 seconds from videotape of the field experience sessions and to provide feedback to ACIs during the conferencing sessions. The use of effective clinical educator behaviors was coded by the primary investigator at least twice for each video recording to assure that a minimum of 90% agreement between the two times was reached in order to provide accuracy of the ORCEB coding. A count was made of each 5 second interval for the coded behavior and converted to total seconds spent in each behavior category. These results were compared to the total observed behavior time of 30 minutes using seconds. The percentage of time spent in each effective clinical educator behavior category was calculated. The ORCEB provided pre and post measures to compare for any change in the use of the effective clinical educator behaviors after the ACIs underwent the clinical supervision intervention.

The post-intervention survey included both scaled items and open-ended questions. Three survey questions presented statements with five possible scale item responses, strongly disagree (SD), disagree (D), neutral (N), agree (A), and strongly agree (SA). The first two questions related four components of the clinical supervision intervention (conferencing, goal setting, ORCEB data, and stimulated recall) to a possible post-intervention outcome, positive impact and use of self-reflection. The third question used the same four components with the addition of the CIE role, and related them to a positive learning experience outcome. Open-ended questions following each scaled-item statement asked the ACI which component of the intervention had the most positive impact and to provide an explanation, and also if any components had a negative impact. (Appendix C).

Procedures. Prior to videotaping, the investigator met with the ACIs and videographers to schedule dates, times, and locations for videotaping. The videotaping occurred over a period of 6 weeks in order to stagger videotaping sessions and allow for the investigator to use the 4 week intervention with each ACI. The original plan allowed for 5-6 days in between videotaping sessions. Due to the nature of athletics, changes in schedule resulted in shifting the dates and times allowing for 3-6 days between videotaping sessions.

Stage 1: Pre-intervention. During stage 1, participants convened for a 30 minute informational session to explain the clinical supervision intervention (the stages, process, and ACI role). Stage 1 also involved a pre-evaluation of ACI's clinical educator

behaviors using the observational tool (ORCEB). This information provided feedback data for the planning session in Stages 2-5 of the intervention.

Stage 2: Physical Presence (week 1). During day one of Stage 2, individual meetings between each ACI and the CIE were conducted to discuss goals for stage two that focus on "physical presence" at the clinical site. The participant's reflection of past performance from reviewing the pre-intervention videotape and ORCEB results, were used to make decisions collaboratively during the planning session.

The remainder of the week that began with the planning session, each ACI continued to reflect on the set goals and behaviors during clinical education practice. At the end of this period, each ACI was videotaped by the designated videographer. And behaviors in relation to "physical presence" were coded using the ORCEB. This information provided the data for stimulated-recall and reflection on behaviors in the feedback conference session. At the end of the Stage 2, the CIE and ACI pre-conference used data from the pre-intervention ORCEB results in reference to "information giving," to set goals for Stage 3 in the following week focusing on the new area of clinical educator behavior.

Stage 3: Information Giving (week 2). Stage 3 continued along a conferencing spiral moving into the action stage as the ACIs once again practiced the clinical education of athletic training students and reflected on their goals and behaviors related to information giving. The ACIs were videotaped at the end of stage 3. During the feedback conference, stimulated-recall and the ORCEB were again used to facilitate reflection on teaching behaviors that give information. The conference at the end of Stage 3 focused on

behaviors that “evaluate students” and goals were set for Stage 4based on the initial ORCEB results.

Stage 4: Evaluate Students (week 3). Stage 4 mirrored Stage 3 with the exception of behavior focus during the feedback conference session. The ACIs reflected on the teaching behaviors that “evaluate students” as the focus for Stage 4. They reflected on “questioning behaviors” that promote problem solving and critical thinking to set the behavioral goals for Stage 5 based on the initial ORCEB results.

Stage 5: Critical Thinking (week 4). The fifth stage continued the conferencing spiral, starting with the videotaping of the field observation. Once again, the ACIs were observed using videotape and coded using the ORCEB. The behaviors that promote problem solving and critical thinking served as the focus for reflection during the feedback conference session.

Stage 6: Final Session. The final videotaped session was coded using the ORCEB in reference to all four categories of behavior during the field observation and shared with each ACI during his/her final feedback conference, approximately one-week post-intervention. These measures were used as the post-intervention data and compared to pre-conference measures in the data analysis.

A post-intervention survey was administered to the three ACI participants immediately prior to the focus group session in order to encourage them to reflect on their experience of participating in the clinical supervision intervention and its impact on their role as a clinical educator. This occurred approximately 8 weeks after the intervention, delayed due to end of semester responsibilities of the ACIs and semester

break. The focus group lasted approximately 20 minutes in length and was audio-recorded using a Sony ICD-P520. The collected data were stored and locked in a Vaultz portable file case located in the primary investigator's office. These data provided support and validity to the changes seen in the pre to post ORCEB measures of use of ACI behaviors.

All field observations were conducted during pre-practice sessions and included 30 minutes of continuous filming. Two athletic training rooms were filmed due to the location of each athletic team's locker room and athletic site. After each videotaping session, the cassette was labeled with the CI's code, date, and time. The digital tape was transferred to a Memorex CD-R recordable compact disc using the Microsoft Movie Maker program. Each CD was also labeled and used for playback purposes during the feedback conference session.

During the research project data were gathered throughout the 4-week clinical supervision intervention as part of the learning experience, as well as pre and post-intervention. Table 7 matches the data collection technique to its purpose and timeline. The semi-structured focus group interview and ACI survey focus on the key topics of clinical education practice, clinical supervision, and reflective practice in relation to the clinical supervision intervention.

Table 7. Data Collection Technique, Purpose and Timeline

Data Collection Technique	Purpose	Timeline
ACI Survey of Clinical Supervision Intervention	Gain insight to perceptions relating to the clinical supervision intervention and its impact on clinical education and reflection	Post-intervention
Observational Record of Clinical Educator Behavior (ORCEB)	Record of "actual" ACI behaviors during the athletic training field experience (throughout the intervention).	Pre and post intervention and during Stages 2-5 for each specific behavior category
Video Recording	Audiovisual record of "actual" ACI behaviors during the athletic training field experience to be used during the stimulated recall sessions (during each intervention stage) and for coding of the behaviors using the ORCEB.	Pre and post intervention and during Stages 2-5 for each specific behavior category
Focus Group Interview with Approved Clinical Instructors (ACIs)	Gain insight to perceptions relating to the clinical supervision intervention and its impact on clinical education and reflection.	Post-intervention

Data Analyses

ORCEB and Survey. Coded ORCEB data, were analyzed with charts and graphs showing time (seconds) spent in each behavior category across each stage of the study. The scaled-items on the survey were analyzed using frequency of response for the three ACI participants. Open-ended questions were analyzed by categorizing responses into overarching themes.

Focus Group. The questions posed during the semi-structured interview explored the ACI perception of how the intervention affected their clinical educator behavior (see interview guide in Appendix D). Constant comparison and the cut and paste method was used for analyzing the data from the focus group interview. A professional transcriber

used the Sony Digital Voice Editor software to transcribe the audio recording. The transcriptions from the focus group were line-numbered. The primary researcher and a graduate student separately coded the audiotape transcription. The researcher met with the graduate student to orient her to the appropriate steps for coding a focus group interview using the selected method and provided her with the research questions. The process began by focusing on categories that were related to effective clinical education practice, the clinical supervision intervention, and reflective practice. The data were reviewed several times individually by the researcher and graduate student, looking for indicators of categories, coding them, and then comparing the codes for uniformity and differences. The process was carried out until each coded excerpt had been categorized and no new categories emerged. The researcher and graduate student then met to compare their results and negotiate themes and specific excerpts to collapse the separate codes into one final set of categories. Each reviewed the final coding one more time to discern if any changes were necessary. Once the data were categorized, a member check was performed by the participating ACIs. These data were stored in labeled boxes and kept locked in the primary investigator's office.

Together the ORCEB, survey, and focus group provide for triangulation to describe changes in the use of effective clinical instructor behavior. The analyses also provide insight to ACI perception of the learning outcomes from a structured clinical supervision program for ACI training.

CHAPTER IV

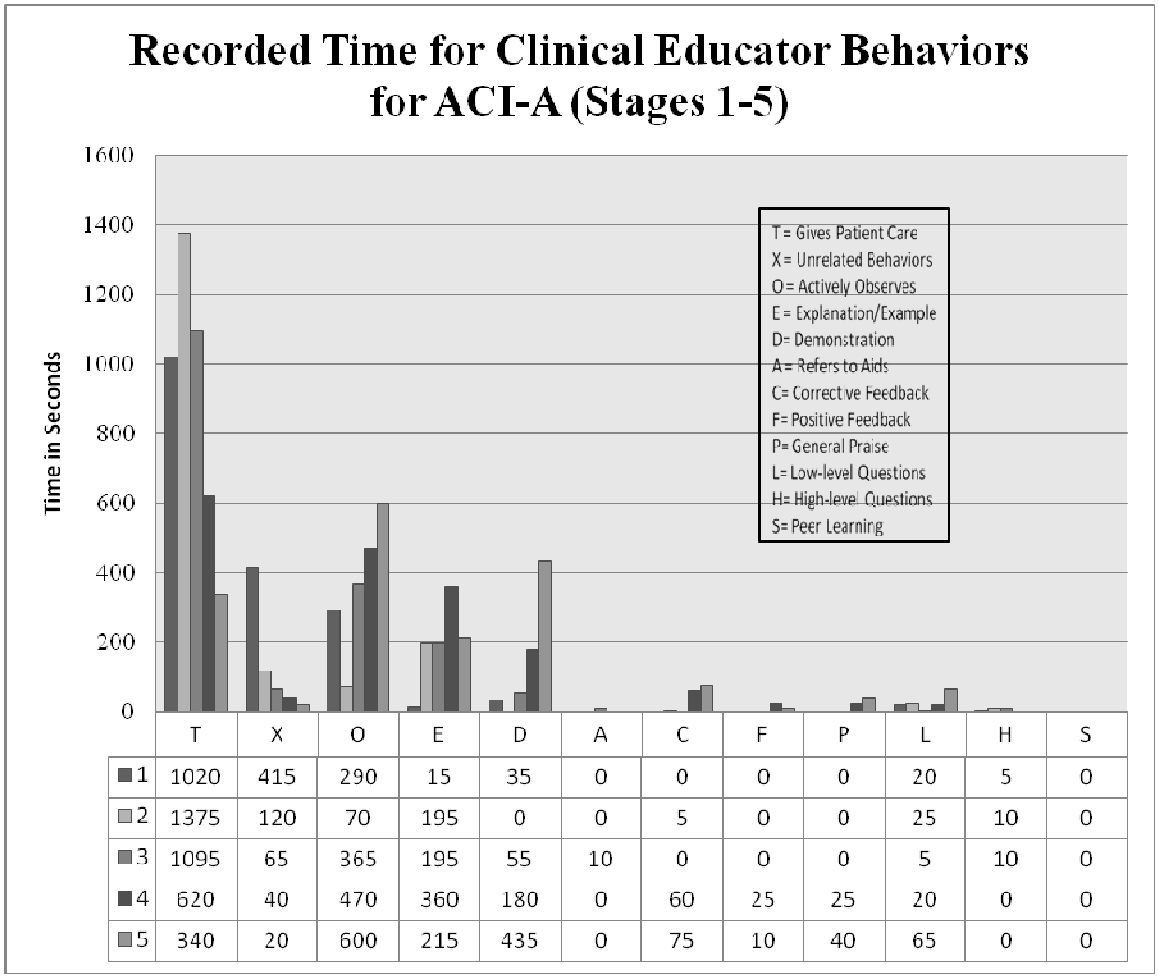
RESULTS

The results for the observed behaviors are presented first for the 3 participants followed by pre-post comparisons. Afterward the results of the survey and focus group are presented. The chapter ends with a summary of the results.

Observed Behaviors

The ORCEB was used to measure and track the percentage of time ACIs spent using the defined behaviors (see Appendix A) at five different times, pre-intervention, three times during the intervention and post-intervention, for each ACI participant. A visual comparison of changes in the percentage of time spent in each behavior category from the pre-intervention measure to each conferencing period as well as pre and post intervention was conducted for each individual. A final comparison with all three ACI participants was made looking at mean score changes in percentage of time spent in each behavior category.

ACI A. Pre-intervention, ACI A spent 79.7% (1435 seconds) in "unrelated behaviors (X)" and "patient care without student interaction (T)", two of the activities that do not include the athletic training student and do not promote active learning in the clinical experience. The remainder of the time was spread over five other categories, with 16.1% (290 seconds) in silent observation (O) and the remaining 4.2 % (75 seconds) in explanation (E), demonstration with or without explanation (D), low-level questioning (L), and high-level questioning (H). (See Figure 2)



	T	X	O	E	D	A	C	F	P	L	H	S
1	1020	415	290	15	35	0	0	0	0	20	5	0
2	1375	120	70	195	0	0	5	0	0	25	10	0
3	1095	65	365	195	55	10	0	0	0	5	10	0
4	620	40	470	360	180	0	60	25	25	20	0	0
5	340	20	600	215	435	0	75	10	40	65	0	0

Figure 2. Recorded Time for Clinical Educator Behaviors for ACI A

During Stage 2, the focus was on "physical presence at the site" (T, X, O), the amount of time spent in this category (1570 seconds) was lower than the time recorded in the pre-intervention results (1725 seconds), however it is important to note that time spent in "engagement in unrelated behaviors" (X) dropped from 415 seconds to 120 seconds. Similar trends were seen in Stages 3-5, where time spent in the behavior category of focus increased from the pre-intervention time: Stage 3 (teaching behaviors that give information – E, D, and A) increased from 50 seconds to 260 seconds; Stage 4

(teaching behaviors that evaluate students – C, F, and P) increased from 0 seconds to 110 seconds; and Stage 5 (questioning behaviors that promote problem solving and critical thinking – L, H, and S) increased from 25 seconds to 65 seconds.

Overall, from pre-intervention measures to post-intervention measures, ACI A decreased time spent in three categories, patient care without interacting with a student (T), engagement in unrelated behaviors (X), and high-level questioning (H). Categories "T" and "X" had greater decreases with a change of 37.78% and 21.94%, and only a minor decrease (0.28%) in category "H". Percentage of time spent in all other categories either remained the same (A and S) or increased (O, E, C, F, P, and L), with the largest increases noted in observation (O), 17.22%; explanation (E), 11.11 %; and demonstration (D), 22.22%. (See Figure 3).

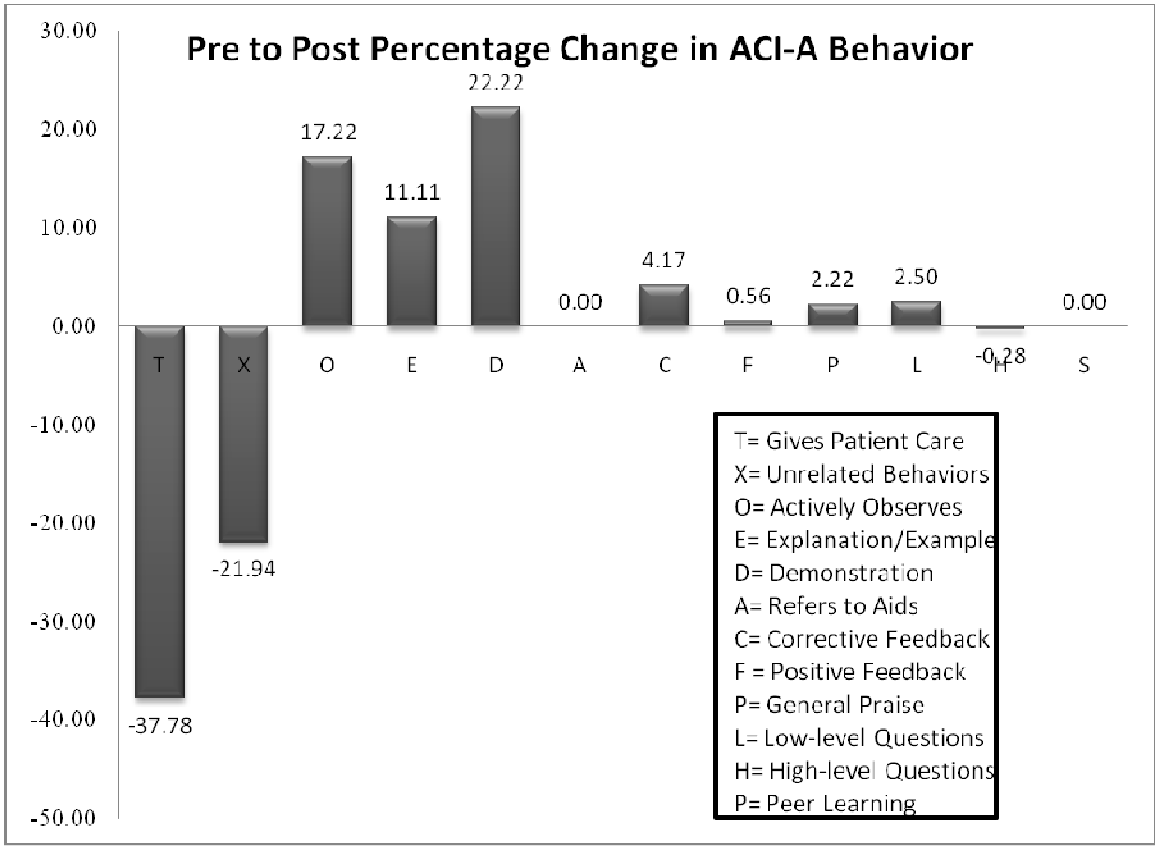
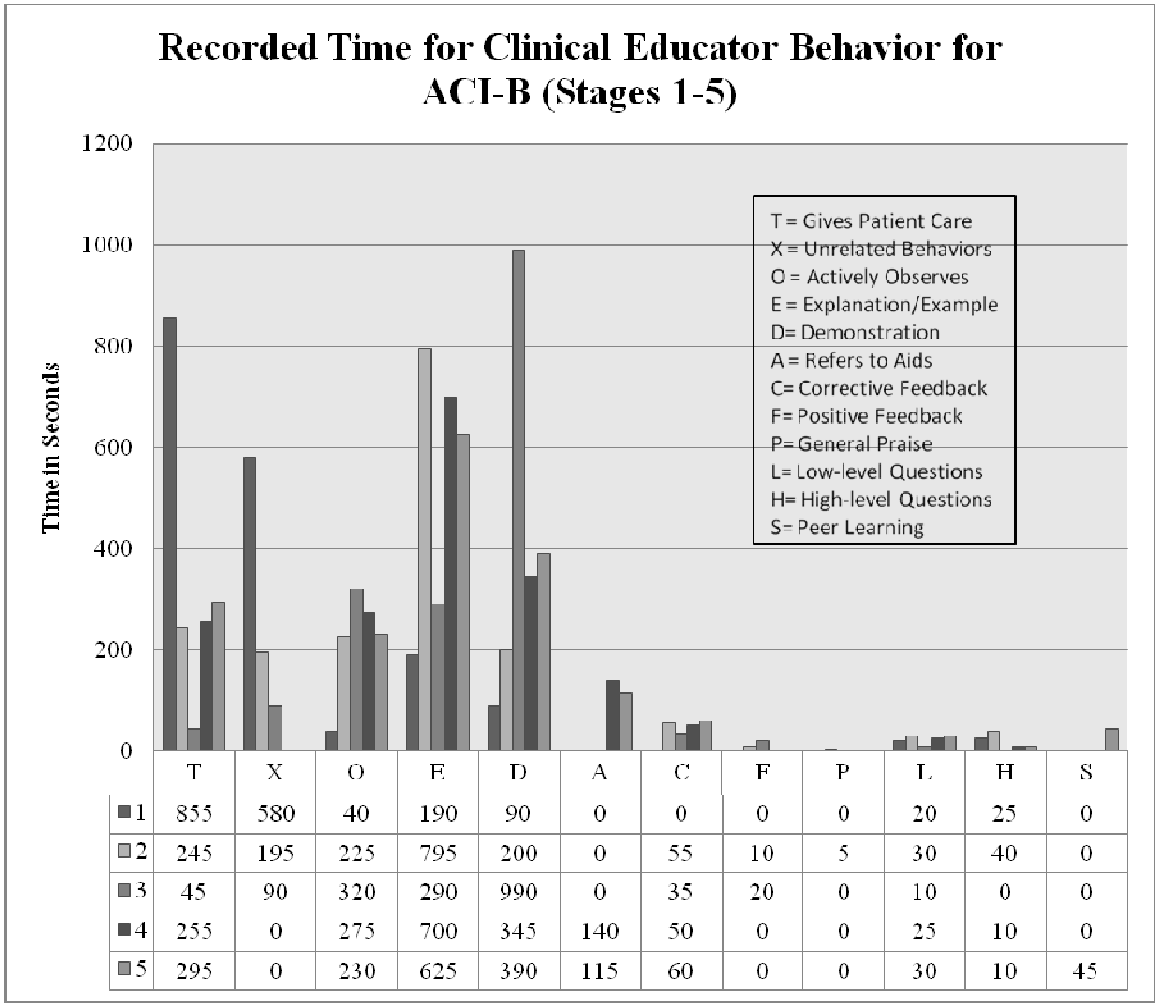


Figure 3. Percentage Change in Clinical Educator Behaviors for ACI A

ACI B. Pre-intervention measures for ACI B also showed a majority of time being spent in patient care without student interaction (T) and unrelated behaviors (X), 47.5% (855 seconds) and 32.2% (580 seconds) respectively, coming to a total of 79.7% (1435 seconds). Explanation (E) and demonstration with or without explanation (D) accounted for 15.6% (280 seconds) of the time, while observation (O), low-level questioning (L), and high-level questioning (H) made up the remaining 4.7% (85 seconds). (See Figure 4).



	T	X	O	E	D	A	C	F	P	L	H	S
1	855	580	40	190	90	0	0	0	0	20	25	0
2	245	195	225	795	200	0	55	10	5	30	40	0
3	45	90	320	290	990	0	35	20	0	10	0	0
4	255	0	275	700	345	140	50	0	0	25	10	0
5	295	0	230	625	390	115	60	0	0	30	10	45

Figure 4. Recorded Time for Clinical Educator Behaviors for ACI B

During Stage 2, ACI B spent time in 10 of the 12 categories of clinical educator behavior, with a large decrease in "T" and "X" from 79.7% to 24.4% (1435 s to 440 s). The largest increase in use of behavior was in explanation (E) going from 10.6% (190 s) to 44.2 % (795 s). The remaining 31.4% (565 s) of the time was spread over observation (O), demonstration with or without explanation (D), corrective feedback (C), positive feedback (P), low-level questioning (L), and high-level questioning (H). During Stages 3-5, although the focus of conferencing switched to new behavior groups, ACI B continued

to spend a greater percentage of time in “teaching behaviors that give information”; explanation (E), demonstration (D), and reference or use of educational aids (A). Although the percentages remained high for the grouping during each observation (Stage 3, 71.1% ; Stage 4, 65.8%; Stage 5, 62.7%), Stages 4 and 5 included time spent in all three of the subcategories of the clinical educator behavior group.

Overall, from pre-intervention measures to post-intervention measures, ACI B decreased time spent in three categories, patient care without interacting with a student (T), engagement in unrelated behaviors (X), and high-level questioning (H). Categories “T” and “X” had greater decreases with a change of 31.11% and 32.22%, and only a minor decrease (0.83%) in category “H”. Percentage of time spent in all other categories either remained the same (F and P) or increased (O, E, D, A, C, L and S), with the largest increases noted in explanation (E), 24.17%; demonstration (D), 16.67 %; and observation (O), 10.56 %. (See Figure 5).

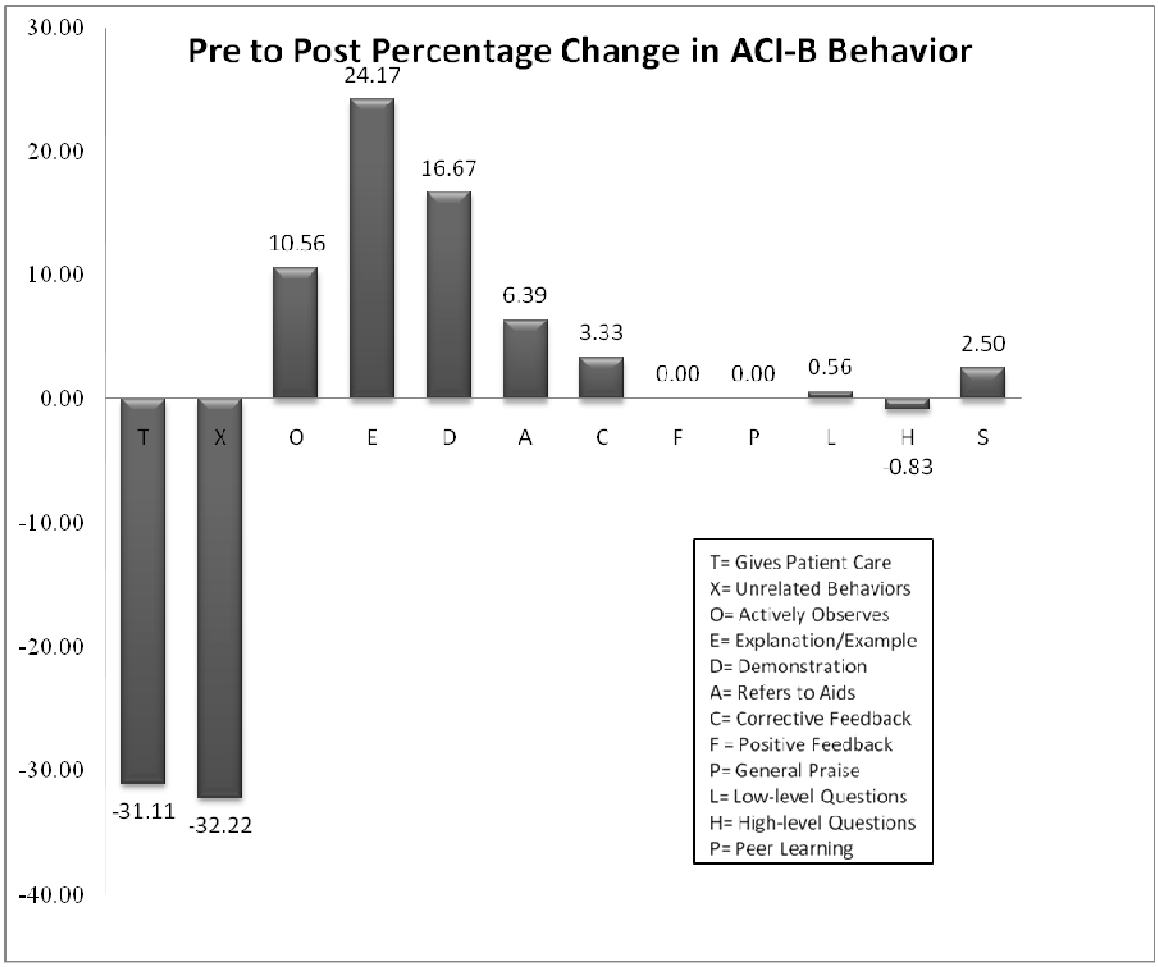
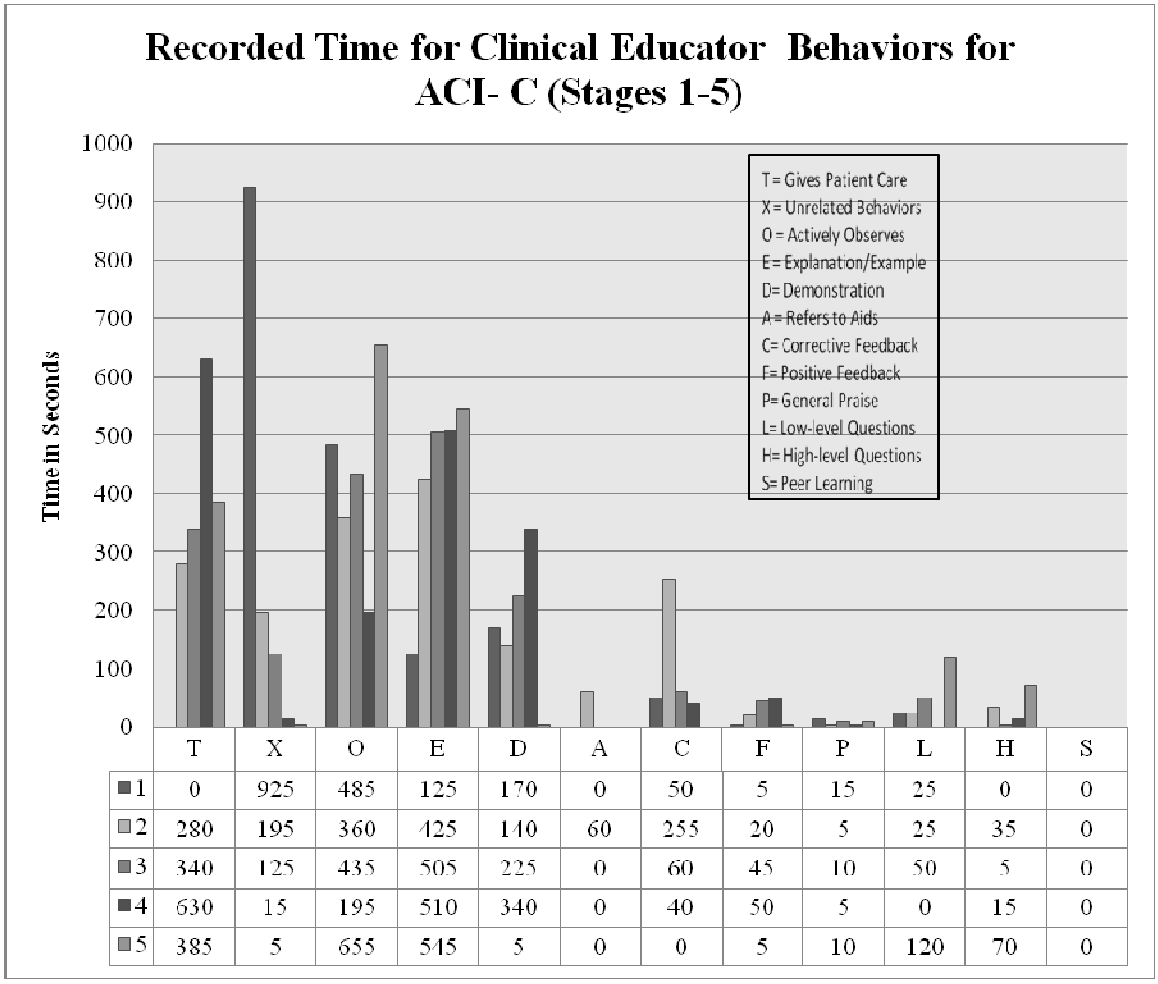


Figure 5. Percentage Change in Clinical Educator Behaviors for ACI B

ACI C. The pre-intervention ORCEB results for ACI C demonstrated a spreading of time spent in clinical educator behavior over 8 of the 12 categories evaluated. The majority of time, 51.4% (925 s) was spent in unrelated behaviors (X), with the second greatest amount of time (26.9%, 485 s) in observation (O), and the remaining 21.7% (390 s) in explanation (E), demonstration (D), corrective feedback (C), positive feedback (F), general praise (P), and low-level questioning (L). (See Figure 6).



	T	X	O	E	D	A	C	F	P	L	H	S
1	0	925	485	125	170	0	50	5	15	25	0	0
2	280	195	360	425	140	60	255	20	5	25	35	0
3	340	125	435	505	225	0	60	45	10	50	5	0
4	630	15	195	510	340	0	40	50	5	0	15	0
5	385	5	655	545	5	0	0	5	10	120	70	0

Figure 6. Recorded Time for Clinical Educator Behaviors for ACI C

During Stage 2, ACI C decreased the time spent in unrelated behaviors from 51.4% (925 s) to 10.8% (195 s), while spending time in a total of 11 of the 12 clinical educator behaviors evaluated. ACI C continued to spend time in at least 9 of the 12 categories throughout Stages 3-5, with a consistently higher percentage of time spent in explanation (E) – Stage 3 (28.1%, 505 s); Stage 4 (28.3%, 510 s); and Stage 5 (30.3%, 545 s).

In evaluating the pre to post intervention change in clinical educator behavior, the most notable change was the decrease in unrelated behaviors “X” (51.11%). There was an additional decrease in behaviors seen in demonstration “D” (9.17), corrective feedback “C” (2.78), and general praise “P” (0.28%). Two areas demonstrated higher levels of increase, direct patient care without student interaction “T” (21.39%) and explanation “E” (23.33%) with additional increases seen in observation “O” (9.44%), low-level questioning “L” (5.28%), and high-level questioning “H” (3.89%). (See Figure 7) It should be noted that during the pre-intervention evaluation 0.00% of time was spent in category “T”.

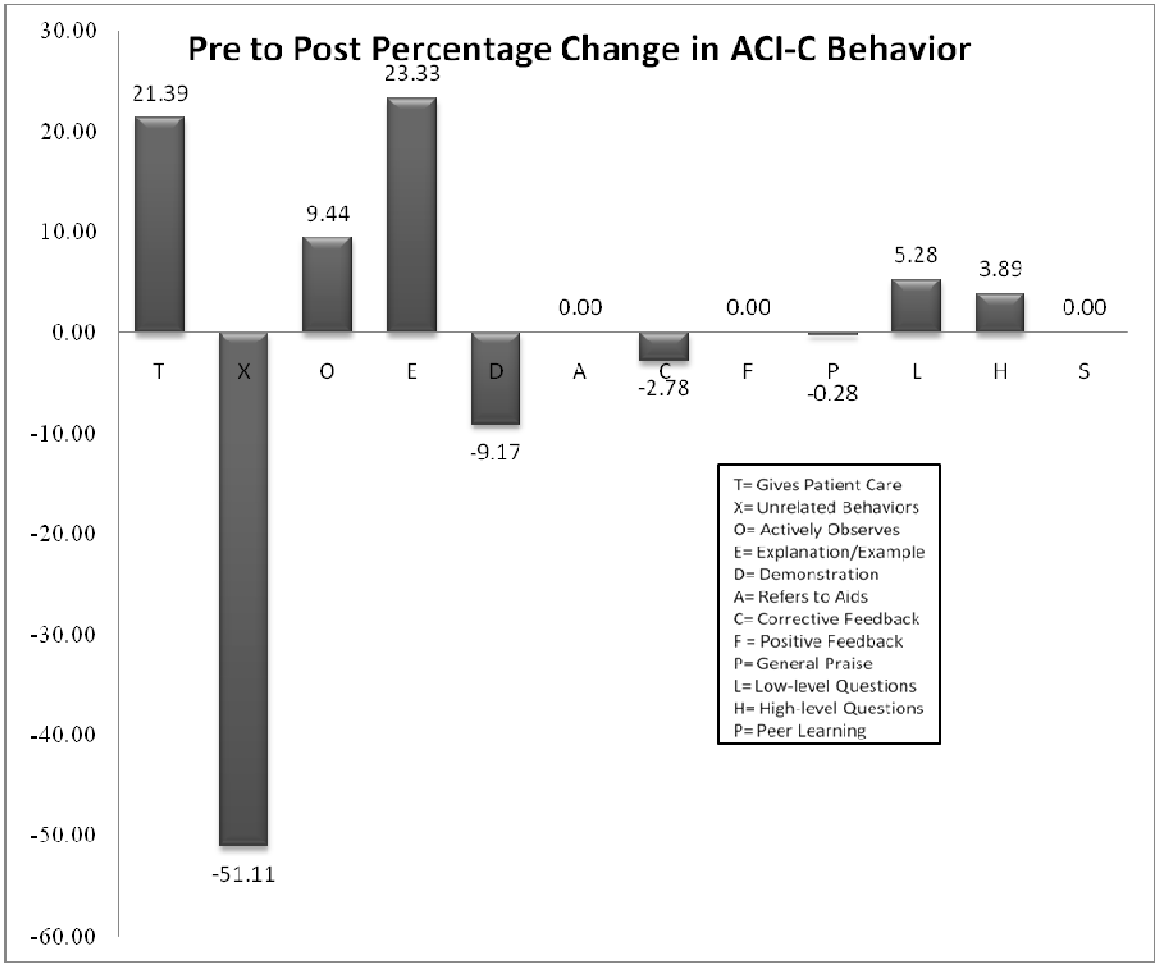


Figure 7. Percentage Change in Clinical Educator Behaviors for ACI C

Comparison of ACI ORCEB Results. A pre to post intervention comparison of the ACI ORCEB results demonstrates some similar trends. All three subjects had larger increases in observation (O), explanation (E), and low-level questioning (L), with minor increases in other behavior categories (A, C , F, P, H, S). . Two of the subjects also had greater increases in demonstration (D), with one ACI increasing the percentage of time spent in patient care without student interaction (T), going from 0.00% to 21.39%. All three ACIs demonstrated a large decrease in their use of unrelated behaviors (X), and minor decreases in other areas (D, C, P, H). (See Figure 8).

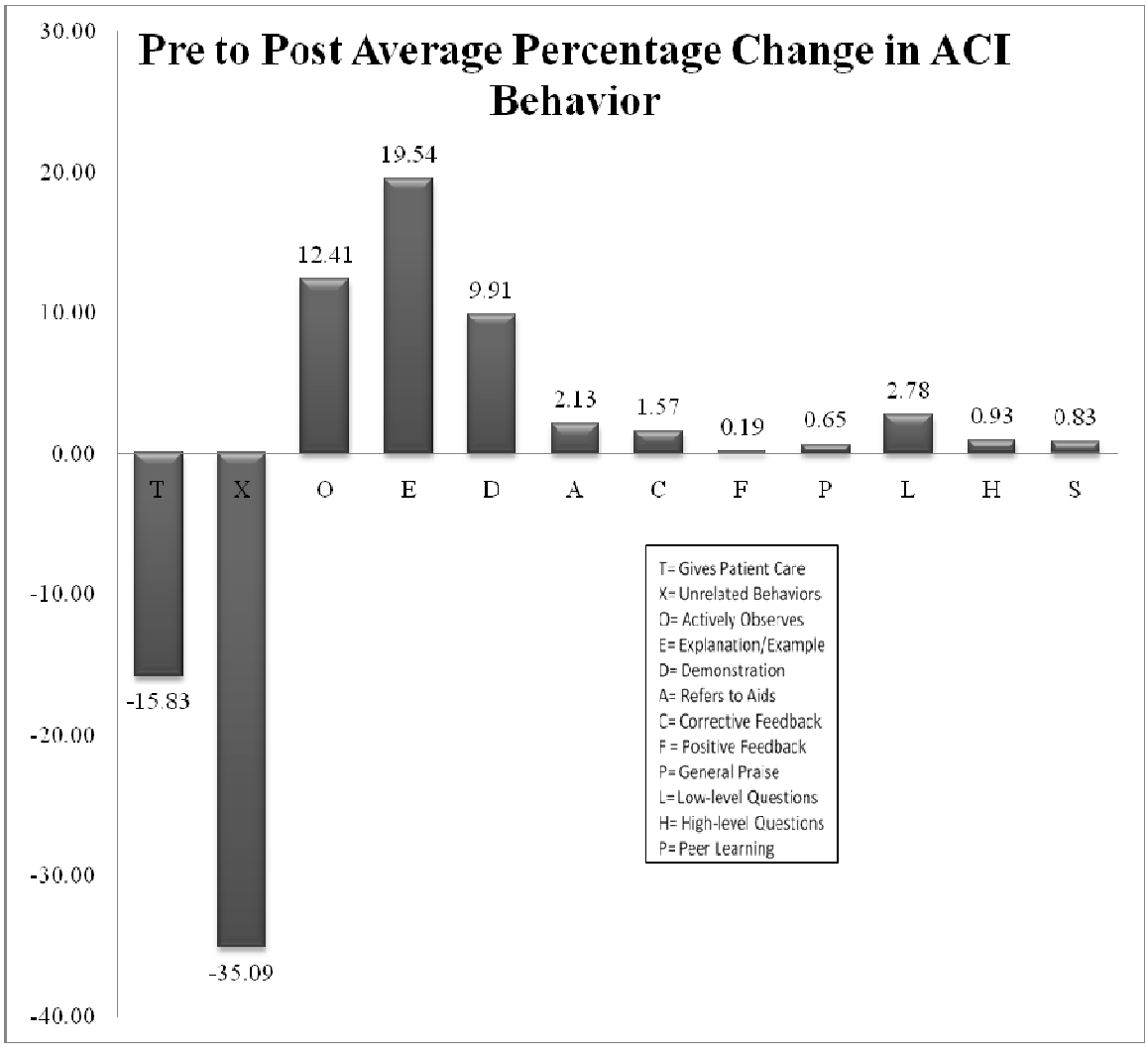


Figure 8. Average Pre to Post ACI Behavior Change

Pre to post intervention percentage averages of change in clinical educator behavior show decreases in patient care without student interaction "T" (15.83%) and unrelated behaviors "X" (35.09%). The remaining 10 behavior categories all saw increases ranging from 0.19% (general praise) to 19.54% (explanation).

ACI Survey of Clinical Supervision Intervention

Scaled Item Questions. All three ACI participants responded to each question. Their responses to each of the questions are presented in tables 8-10.

Question 1. This component of the clinical supervision intervention had a positive impact on my role as an ACI. Two "strongly agree" and one "agree" responses were recorded for both conferencing and ORCEB data. Stimulated recall and goal setting each received three "agree" responses. (See Table 8).

Table 8. Clinical Supervision as a Positive Impact on ACI role.

Component	SD	D	N	A	SA
Conferencing	0	0	0	1	2
Goal Setting	0	0	0	3	0
ORCEB Data	0	0	0	1	2
Stimulated Recall	0	0	0	3	0

Question 2. This component of the clinical supervision intervention encouraged me to use self-reflection in my role as an ACI. One ACI responded with "strongly agree" in reference to goal setting, ORCEB data, and stimulated recall. The remaining two ACIs varied in response. One responded with an "agree" to both ORCEB data and stimulated recall and "neutral" in reference to goal setting, while the other marked "agree" to goal setting and ORCEB data and "neutral" in reference to stimulated recall. All three ACIs responded with "agree" in relation to conferencing. (See Table 9).

Table 9. Clinical Supervision and Use of Self-reflection

Component	SD	D	N	A	SA
Conferencing	0	0	0	3	0
Goal Setting	0	0	1	1	1
ORCEB Data	0	0	0	2	1
Stimulated Recall	0	0	1	1	1

Question 3. This component of the clinical supervision intervention resulted in positive learning experiences. Stimulated recall, conferencing, and role of CIE all received two "strongly agree" and one "agree" responses. While goal setting and ORCEB data received one "strongly agree" and two "agree" responses. (See Table 10).

Table 10. Clinical Supervision as a Positive Learning Experience

Component	SD	D	N	A	SA
Conferencing	0	0	0	1	2
Goal Setting	0	0	0	2	1
ORCEB Data	0	0	0	2	1
Stimulated Recall	0	0	0	1	2
Role of CIE	0	0	0	1	2

Open-ended Questions. Open-ended questions following each scaled-item statement ask the ACI which component of the intervention had the most positive impact and if any components had a negative impact. All ACI responses to the questions seeking negative interpretations indicated there were none. The response section was either left blank or had a response of "no" or "N/A". Two ACIs cited the ORCEB data as having the greatest effect on positive impact, with one referencing conferencing and the role of CIE. The ORCEB data was also indicated by two ACIs as having the greatest effect on self-reflection while one ACI cited stimulated recall. Role of the CIE was cited by two ACIs as having the greatest effect on positive learning experiences while the ORCEB data, goal

setting and stimulated recall were each reported by one ACI. See Table 11 for specific ACI responses.

Table 11. Open-ended Question Responses

Positive Impact	Components	ACI Statements
Role as ACI	• ORCEB Data • Conferencing and Goal Setting	• ORCEB – " provided concrete numbers that corresponded to actual clinical behaviors." • ORCEB – " challenged perceptions and realities." • ORCEB – "data pointed out the amount of time I was spending on each category." • Conferencing and Goal setting - "pointed out weakness, but were able to talk about ways to improve."
Self-reflection	• ORCEB Data • Stimulated Recall	• ORCEB – "after looking at the numbers I would think back to the event and realized things I was and wasn't doing." • ORCEB – "gave me a reminder for point of focus for clinical instruction. Thinking about categories made me think of teaching behavior." • Stimulated recall – "allowed me to visually reflect on my ACI responsibilities and was able to change my outlook on how I conduct treatments and interact with the students."
Learning Experiences	• Role of CIE and Goal Setting • ORCEB and Stimulated Recall	• Role of CIE – "provides objective input/evaluation of teaching performance. Help bridge a connection between." • Role of CIE – "helped give suggestions and strategies to correct behaviors that were highlighted." • ORCEB and stimulated recall – "gave me suggestions on how to provide students with a better learning environment."

Focus Group Interview

The inclusion of qualitative comments provided a third method for evaluating the effects of the clinical supervision intervention on ACI behavior. Themes were identified

when at least six comments shared a common idea. The coded themes, subthemes and supporting ACI statements can be found in Table 12.

Table 12. Outcomes of a Clinical Supervision Intervention

Theme	Subtheme	Supporting Comments
Conferencing	Importance of Use	"It seems to me like it would be worthwhile, you know, you have those collective things…maybe do some goal setting at the beginning…you know it's helpful to get a reminder in terms of these are the things you did well, these are the things that we identified that are weaknesses and need improvement." " …something gets lost in the translation if you just give numbers…there were times when the numbers needed a little explanation…numbers by itself wasn't enough." "I thought the goals were important…it gave me something to focus on the next time versus just walking in and just doing whatever." "It gave you intentionality with what your purpose was going to be…there was something concrete that gave me a target oriented to go for…" "…that would help me anyways…go over and see what you think and conference and set goals for the next time."
Videotaping	Stimulated Recall	"Seeing myself on video was very eye opening…when you actually see your own body language and the way you speak and interact with a student I thought was helpful…was very revealing." "Seeing the video explained the numbers." "…it's like almost instantaneously things started to come back to me in terms of what was going on. My memory recall of what happened was more in tune.
Videotaping	Barriers to Use	"…being watched by a camera, it just made you very self-conscious of what activities you were doing or not doing. "…felt kind of negative in the sense I felt kind of hot under the collar." "my behavior changed when I was on camera and new that was the day I was being taped."
Perception of Teaching	None	"I was under the impression that, just because I was engaging, that I was probing but I wasn't." "…it was completely off my radar in terms of that's the style, this is my natural style of doing things and that I might have to change my natural style to accommodate a better learning situation for a student." "I realized that using teaching aids while you're in the clinic really helped me out." "I think it was just easy to lapse into clinical instruction is just supervising students as they're doing things and just simply correcting them when they are doing something wrong, versus doing something that's educational…my perception has changed dramatically." "…my perception of some of the things I do was one way, and then actually seeing myself on tape and talking, like there were some things that clicked or registered." "…the idea of being physically present and available."
Behavior Change		"Looking at the video and raw numbers, I started changing things." "I realized that at first I didn't spend as much time as I wanted doing

		particular tasks…I learned that I improved on that task." "I made the students use their critical thinking skills, but nothing like I do now. " I used to literally sit back and watch them, you know, perform their tasks and everything." "…I try to challenge the student every day…giving corrective feedback." "I took some of the old stuff I had and I added what I learned for myself going through this process."
ACI-Student Engagement	None	"…it came quite clear to me that I have a good instructional style but it lacks in terms of engaging them in a way that gets them more active…I do more information dissemination than I do probing and getting them interactive." " …we need to supervise them and they need to be active…make it more proactive as a learning tool." "I saw positive feedback from the students when I was engaged with the learning experience during treatments." "…include him on everything we do, injury reports, my having to talk to the coaches…" "actually using that time for casual instruction and reinforcing based on what they remember and what they had difficulty with versus just hanging out, socializing, waiting for an athlete to come in."
Role Strain	None	"We had so many people we had to try and get treated. " …you were constrained with having to provide athletic training services to so many bodies, that it gets cumbersome, you're in tension between trying to do athletic service and instruction…" "I had baseball athletes come in and I was working with volleyball…I would just work solely with baseball and my students would work with volleyball." "…means you sacrificing the other, or to do well on the other it means you're sacrificing in the other direction…it's hard to find balance."

Summary of Results

The observed behavior results showed large decreases in the use of unrelated behavior (35.1%) and care of patient without student interaction (15.8%) pre-post intervention. All other categories of clinical educator behavior used by the 3 ACIs increased in average percentage of time, ranging from a 0.19% to 19.54% change from pre-post intervention scores.

The survey and focus group results indicated a positive perception of the intervention. The survey had 15 strongly agree, 22 agree, and 2 neutral marks in response to the effects of the intervention components on positive impact, use of self-

reflection, and positive experiences. No responses were recorded for the open-ended questions concerning the intervention components having negative impact, discouraging self-reflection, or resulting in a negative experience.

The focus group results identified 6 themes and 3 subthemes; 1) conferencing and having positive impact, 2) videotaping and stimulated recall and barriers to use, 3) perception of teaching, 4) behavior change, 5) ACI-student engagement, and 6) role strain. All of the categories were supported by at least three comments by ACIs recorded during the focus group session.

CHAPTER V

DISCUSSION

This chapter summarizes and discusses the results in relation to the problem statement, research question, and supporting literature. Conclusions related to the findings in the study are presented centering on the research questions. Recommendations are discussed in relation to both the study implications and future research.

The Problem Statement and Research Question

Athletic trainers are often hired in the dual role of athletic trainer and clinical educator based on their athletic training qualifications. Unfortunately, most graduate with no background or training in teaching (Toburen, 2002; Weidner & Henning, 2004). Several studies have shown a low usage of effective clinical educator behaviors, ranging from 7% to 24% in instructional behaviors and 25-30% in perceived active learning (Berry et al., 2004; Dondanville, 2005; Miller & Berry, 2002). Although these studies did not look at the impact of ACI training on the clinical education of athletic training students they explored ACI behavior and ATS active learning finding similar results to the pre-intervention ORCEB results (14.6%) of the average percentage of time being spent in using effective ACI behaviors.

There are no set norms for the amount of time an ACI should spend actively engaging the ATS. But if studies consistently demonstrate it is only happening 7-30% of the time spent during clinical education experiences, it leaves room for one to interpret

that not enough is being done to support and train ACIs to actively engage students. CIEs need to do more to educate ACIs on appropriate teaching behaviors that are not limited to only the "direct" supervised experiences, but lend themselves to "supervised autonomy". ACIs have multiple responsibilities and cannot be expected to always be looking over the shoulder of the ATS, but rather balance the formalized teaching with experiences where the ATS can develop knowledge and skill through peer teaching or independent research. An employer would not expect for employees to be fulfilling job responsibilities 100% of the time while at work, but would expect the percentage to be close. Having a dual role of athletic training care provider and ATS clinical educator, it would be expected that the percentage of time engaging the ATS be at a minimum of 50% of the time during the clinical education experience. The goal is for ACIs to find ways to assist the ATS in connecting theory to practice through a variety of appropriate teaching methods during the clinical experience, by providing an educational experience that encompasses ACI-ATS collaboration through both direct and indirect interaction. While emphasizing clinical education as a goal, it is equally important for CIEs to emphasize the importance of unengaged time during the clinical experience. Social learning, learning through observation, is equally important in the development of ATS proficiency. ACI standards include the demonstration of legal and ethical behavior, effective communication, and appropriate professional interpersonal relationships (Weidner & Henning, 2004). Modeling of these professional roles and responsibilities may be the best method for teaching the ATS how to connect the knowledge of professionalism learned in the classroom to the applicability to real time situations.

Clinical education is looked upon to be the hallmark for connecting theory to practice in athletic training and the medical-allied health fields, and has become a central focus in athletic training education (Aiken et al., 2001; Weidner & Henning, 2005). Although selection and evaluation of ACIs is important, it is equally important to find ways to train ACIs to ensure that appropriate clinical education is occurring (Gwyer et al., 2003; Hancox et al., 2004; Hesketh et al., 2001; Weidner & Henning, 2005).

The Acheson and Gall (1987) Model of Clinical Supervision has been used as a method to assist student teachers to bridge the gap between pedagogical theory and teaching practice. Adopting the model as a framework, the primary investigator designed an intervention that was based around a planning conference, fieldwork observation, and feedback conference. The research question was: *What is the relationship between the structured clinical supervision program and the use of effective ACI behaviors?* The hypothesis was that there would be a positive relationship between the structured clinical supervision program and the use of effective ACI behaviors.

The primary investigator developed a clinical supervision intervention that included stimulated recall and a review of observed behavior during the planning and feedback conferences. Three ACIs, having 1 to 12 years of athletic training experience, participated in the intervention for a four week period, conferencing 5 times. Measures of observed clinical educator behavior were coded from videotaped sessions of 30 minute pre-practice treatment using the ORCEB for each individual ACI participant. The three ACI participants also completed a post-intervention survey and a semi-structured focus group interview.

Findings and Conclusions

Observed Behaviors. Physical presence at the site is perhaps the easiest category of clinical educator behaviors to exhibit; however, it is the one category that does not promote active learning, and thus, low levels are desirable. The remaining three overarching categories (Information, Evaluation, and Questioning) all promote clinical education through active learning experiences. (Dondanville, 2005).

The ORCEB results supported the hypothesis that participation in a structured clinical supervision program increases the ACI use of effective clinical educator behaviors. All 3 ACI participants saw decreases in their use of behaviors in the physical presence category with an overall increase in percentage of time using the remaining behavior categories that promote active learning. It was interesting, but not surprising, to note that ACI A, having the least experience, while spending less time in unrelated behaviors spent a majority of time (56.7%) pre-intervention in giving patient care without student interaction, and overall yielded the highest total percentage of time spent in physical presence (95.8%). With only one year of ACI experience and starting to establish a professional career, the ACI was focused more on the traditional duties of an athletic trainer, providing the care and prevention of athletic injuries. In contrast, having the most years of ACI experience may have affected the results of ACI C in a different manner. The pre-intervention percentage of use of effective clinical educator behaviors (21.7%) was slightly higher when compared to ACI B (18.1%) and ACI A (4.2%). The results may also have been affected due to the 0.0% of time spent in the direct patient care without student interaction (T) resulting from a low volume of patient care needs at

the time, decreasing the total amount of time spent in the physical presence category during the pre-intervention fieldwork observation. These results support the need for training of clinical educators regardless of the years of clinical experience and emphasize that a workforce comprised of qualified clinicians who lack formal training in teaching leads to a decrease in the quality of clinical education (Rothstein, 2002; Strohschein et al., 2002; Weidner & Henning, 2005; Weidner & Henning, 2004). “Without specific training in educational methods, clinical teachers may be less efficient and effective in their teaching” (Molodysky, 2007, 1044). It is important for CIEs to recognize longevity as an athletic trainer does not dictate competence as an ACI. Clinical experience is important in relation to the demonstration of clinical skills and knowledge as well as the ACI standards regarding professionalism however may not provide the ACI with insight to appropriate methods to teaching the ATS in the clinical experience.

The most remarkable result that supports the hypothesis is the decrease in percentage of time spent in unrelated behaviors. It is important to point out that these results may also have been affected by the presence of the videographer and camera. It was noted in the focus group session that it made them ”self-conscious”, “hot under the collar”, and their “behavior changed” when they knew they were on camera. The average difference pre-post intervention was 35.09%, with the individual differences of ACI A, 21.94 %; ACI B, 32.2 %; and ACI C, 51.1%; a notable and meaningful change over a four week period of time despite the effect of the presence of the camera. These results support Kent’s (2001) belief in the improvement of teaching through the use of a

systematized approach to clinical supervision that emphasizes both field experience observation and feedback.

Post-intervention Survey. The survey results from both scale-item questions and open-ended questions support the hypothesis. All 3 ACIs responded with "strongly agree" or "agree" to the questions indicating the intervention components had positive impact on their role as ACI and creating positive learning experiences. Responses to the open-ended questions further explained the intervention impact: "challenged perceptions and realities"; "pointed out weakness, but were able to talk about ways to improve"; "provides objective input/evaluation of teaching performance"; "help bridge a connection"; "helped give suggestions and strategies to correct behaviors that were highlighted"; "gave me suggestions on how to provide students with a better learning environment." Together the responses reflect what Acheson and Gall (1987) purported to be the goals of clinical supervision, that by participating in the intervention the ACIs were challenged to evaluate their role and behavior as an ACI, and to collaborate to find solutions to areas of weakness and work toward increasing the use of more effective clinical educator behaviors to improve upon the athletic training students' clinical education experience.

Question number 2 called upon the ACIs to respond to each component of the clinical supervision program in relation to encouraging self-reflection in the role of ACI. Both the conferencing and ORCEB data received either an "agree" or "strongly" agree response. Goal setting and stimulated recall each produced one "neutral" response with no elaboration or explanation in the open-ended question that followed. The ambiguity of

not knowing whether to disagree or agree on the relationship between some of the clinical supervision components along with responses gleaned from the focus group interview lead one to believe that the ACIs may not fully understand the meaning or purpose of "self-reflection", or perhaps do not use it. Not enough comments were coded to lead to a category in reference to reflection, the ACIs seemed to struggle to respond to the open-ended questions, "I guess the only thing that I ever used was the evaluations that our students do"; "I haven't sat down and said hey, this is what I really need to focus on for myself"; "I don't keep a journal of self-reflections".

Focus Group Interview. Although ambiguous in relation to self-reflection, the focus group results also confirmed the positive impact of the clinical supervision intervention on the behavior and perception of the three participating ACIs. Several statements reflected how the intervention process impacted the ACI perception and approach to the clinical education of students: 1) "It gave you intentionality with what your purpose was going to be"; 2) "I think it was just easy to lapse into clinical instruction is just supervising students as they're doing things and just simply correcting them when they are doing something wrong, versus doing something that's educational"; 3) "I used to literally sit back and watch them"; 4) "actually using that time for casual instruction and reinforcing based on what they remember and what they had difficulty with versus just hanging out, socializing, waiting for an athlete to come in"; and 5) "I do more information dissemination than I do probing and getting them interactive." Throughout the intervention, the ACIs began to look at clinical education from a new perspective, "…I might have to change my natural style to accommodate a better learning

situation for the student." Changing the mindset from being physically present or observing to actually finding ways to engage the student brought about a new understanding of the purpose of the athletic training student's field experience. The ACIs began to realize that students were present to learn, not to punch the clock and record hours, and that their interaction with the student affected the outcome. This realization was crucial to improving the clinical education experience.

A recent study by Barnum (2008) also demonstrates ACI lack of awareness on the impact of behavior (approach to questioning) on student engagement (critical thinking). The study collected data from multiple modes including interviews, field observations, audio-recorded ACI-ATS interactions, and stimulated-recall interviews focusing on ACI use of questioning as a strategy for teaching the ATS in the clinical field experience (Barnum, 2008). It was determined that two primary methods of questioning were used, strategic, the use of a consciously organized approach to questioning, and non-strategic, questioning without organization or purpose (Barnum, 2008). The participating ACIs used questioning techniques anticipating that they were challenging the ATS and assuring the comprehension of information, however those using the non-strategic approach did not necessarily accomplish this goal. Athletic training student response to the non-strategic approach described it as ineffective for encouraging individual thought or opinion but rather affirming whether an understanding of the concepts is present (Barnum, 2008). CIEs should look to this study and the approach to questioning as a valuable tool to teach ACIs how to structure questioning to encourage critical thinking by the ATS.

The greatest struggle for ACIs was to balance the dual roles of athlete medical care provider and clinical educator. It was especially difficult for ACI A, having the least clinical and ACI experience, working with a student who lacked confidence, and having a team with multiple season ending injuries. ACI B experienced conflict surrounding role strain due to the athletic coverage of two teams at the same time. Although the conflict was somewhat addressed during the study and stress was slightly diminished, more time would have yielded greater benefits. Both ACI A and ACI B became more involved with the student initiating active learning, which assisted them in rethinking how they balanced the care of athletes with clinical instruction. ACI B realized, "I really didn't want them around baseball that much, so I knew what was going on." The fear of losing touch with one group of athletes led to the ACI assigning tasks and duties already addressed with one team to the students, while concentrating on new problems with the baseball team. This actually created a greater amount of role strain, because it caused a direct separation of student and ACI. Following the feedback conference, ACI B decided to assign students to both baseball and volleyball athletes, and to interact with the students while they imparted care to the athletes.

Recommendations

Implications for practice. The clinical supervision intervention for ACIs in athletic training showed great promise for future CIE use in the training and preparing of clinical instructors to become more effective in the use of clinical educator behaviors. Although the study demonstrated substantial change in the use of both unrelated

behaviors and effective clinical educator behaviors, several guidelines could be adopted to enhance the intervention.

One limitation of the study was the possible effect the presence of the video camera had on the outcome of ACI behavior. It must be determined by the CIE if the negative impact of video recording ACI-ATS interaction outweighs the positive benefits of using stimulated recall. The results of both the focus group interview and post-intervention survey indicated the participating ACIs were helpful for both recalling and reflecting on past ACI behaviors. They viewed the process as "eye-opening", "revealing", and providing explanation of the ORCEB data. The following are suggestions to decrease the intrusiveness of a video camera as a part of the clinical supervision program:

1. Find a way to minimize the physicality of the camera (hidden, panned out from a greater distance with microphone).

2. As the CIE, do not schedule "observation" days, visit on a regular basis so the ACI does not know which day clinical educator behaviors are being observed and recorded.

3. As ACIs begin to become more comfortable with self-reflection in relation to their role in clinical education, use videotape and stimulated recall less frequently, phasing it out.

It is important for the CIE to match the approach of conferencing to the level and/or experience of the ACI:

a. Early developmental stage – a more directive approach using guidance.
b. Middle developmental stage – collaborative approach, using open-ended questions to prompt ACI to find solutions and set goals.
c. Later developmental stage – consulting approach, actively listening and providing encouragement to ACI in decision making process (Acheson & Gall, 1987; Clifford et al., 2005; Morton-Cooper & Palmer, 2000; Yegdich & Cushing, 1998).

During this study a more directive approach was used with ACI-A. Having only one year of ACI experience at a different academic institution, the ACI was comfortable pointing out and recalling and providing explanation for behaviors exhibited during the video observation. It was noted that although physically present, the ACI was spending a majority of the observational session providing treatment without ATS interaction. However, when asked open-ended questions such as, "Your student seems busy getting coolers ready for practice while you are doing all the pre-practice taping, what are some steps you might be able to take to encourage the student to be more actively involved with the patient care?", the ACI was unable to construct clear ideas or goals for addressing the issue. When asked what the expectations were for the ATS during pre-practice session, the ACI was able to respond with clear and concise responses, such as "I expect my ATS to engage with the taping and pre-practice treatment of the athletes." Recognizing that the ACI was not yet able to develop strategies for assisting the ATS in meeting expectations, some suggestions were given and the ACI was able to construct specific goals for balancing the taping and treatment of athletes with actively engaging the ATS.

Both ACI-B (4 years experience) and ACI-C (12 years experience) were able to work together with the CIE to come up with goals and methods to improve upon ACI behaviors. A consulting approach was used while working with ACI-C, while a more collaborative approach was taken with ACI-B. Although similar in style, the consulting approach relies on more active listening and support for the ACI reflection and goal-setting process. ACI-C was able to identify weakness, create possible solutions, compare

and contrast the different approaches/goals for new behavior, and concisely describe the steps to be taken to meet the set goals for ACI behavior. In contrast, ACI-B would hesitate in defining specific steps to meet the goals that were identified. It was clear that ACI-B was comfortable using a certain style and lacked experience and knowledge in the options available for engaging a student in the clinical field experience. The CIE provided other methods and asked ACI-B to provide specific examples of how the new ACI behavior might be used. ACI-B was able to articulate possible scenarios and to provide pros and cons to the suggested approaches allowing ACI-B to select specific steps for meeting the new goals. As noted during the focus group interview, as ACIs become more comfortable and aware of their role in the clinical education of the ATS it may be prudent to use videotape and stimulated recall less frequently, phasing it out.

Future Research. It is important to acknowledge that use of field experience observation is only a "snapshot" of the particular timeframe in which the behavior observation takes place. For the purpose of this study, the pre-practice session was selected due to its easy accessibility, enclosed setting, and potential for clinical education. ACI A addressed the role strain between a high volume of athletes seeking care and low self-confidence of the athletic training student by using the "down time" at practice to discuss and provide explanations of the daily athletic training activity for the day. This would be an example of clinical education that is not captured by the lens of the camera. Future research should observe different points during athletic training coverage for a team, or for full sessions including pre-practice, practice and post-practice. All three are opportunities for clinical education.

The current study resulted in changes in clinical educator behavior and perception of teaching, however only 3 ACIs participated in the intervention. Future research should incorporate a larger number of ACIs to see if similar trends in change of clinical educator behavior result.

Similar to other medical allied health fields, certified athletic trainers function in many roles taking on multiple job responsibilities, patient care, administrator, and clinical educator (Henning & Weidner, 2008) . Although ACIs with less experience seem to experience greater frustration with role strain, many factors contribute to the phenomenon including role set, role obligations, role conflict, role overload and role stress (Henning & Weidner, 2008). Research highlights the importance of finding ways to decrease role strain through ACI training and collaborative efforts of athletic training education stakeholders (Henning & Weidner, 2008).

The study suggested that role strain may be decreased through the support and guidance of clinical supervision. ACIs can learn how to balance their dual roles and become more effective as a clinical educator while continuing to provide appropriate athletic training coverage of sport teams. The current study indicated that a structured clinical supervision program increased the use of clinical educator behaviors. It would be interesting to study its effects on role strain.

Participating in a clinical supervision model for training ACIs is a time demanding task. Although workshops and evaluation tools provide appropriate learning and reflective opportunity, they do not offer the benefits of the on-going development of clinical educator behavior, self-reflection, and eventual autonomy of evaluation that is

nurtured through clinical supervision. It is the responsibility of CIEs and Clinical Coordinators of ATEP to continually find ways to improve upon the educational process that occurs during the clinical experience. The role of Clinical Coordinator is not only to identify, find and secure quality clinical experience sites, but to ensure that ACIs are effective in the clinical education of the ATS. For many ATEPs dismissal of ACIs is not an option. This makes it more imperative the CIEs/Clinical Coordinators not only evaluate ACIs on a regular on-going basis, but provide them with support and training that will assist them in balancing their dual roles as practitioner and educator, enhancing the quality of the clinical education experience. This study suggests that time devoted to structured clinical supervision is well worth the effort in terms of ACI development, the clinical education of athletic training students, and ultimately the service to student athletes.

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APPENDIX A: OBSERVATIONAL RECORD OF CLINICAL EDUCATOR BEHAVIOR (ORCEB)

Observational Record of Clinical Educator Behavior Coding Form

(E) Explanation/Example (D) Demonstrates (A) Refers to Aids	(C) Corrective Feedback (F) Positive Feedback (P) General Praise	(L) Low-level Question (H) High-level Question (S) Peer Learning	(T) Gives Patient Care (X) Unrelated Behaviors (O) Actively Observes

Intervals	0 min.	2 min.	4 min.	6 min.	8 min.	10 min.	12 min.	14 min.	16 min.	18 min.	20 min.
:00											
:05											
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Intervals	1 min.	3 min.	5 min.	7 min.	9 min.	11 min.	13 min.	15 min.	17 min.	19 min.	21 min.
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Clinical Instructor Observed: _____

Site: _____

Date and Time: _____

Observer: _____

Observational Record of Clinical Educator Behavior Coding Form

(E) Explanation/Example (D) Demonstrates (A) Refers to Aids	(C) Corrective Feedback (F) Positive Feedback (P) General Praise	(L) Low-level Question (H) High-level Question (S) Peer Learning	(T) Gives Patient Care (X) Unrelated Behaviors (O) Actively Observes

Intervals	22 min.	24 min.	26 min.	28 min.	30 min.	32 min.	34 min.	36 min.	38 min.	40 min.	42 min.
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Intervals	23 min.	25 min.	27 min.	29 min.	31 min.	33 min.	35 min.	37 min.	39 min.	41 min.	43 min.
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Comments: _____

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Coding Definitions:

Teaching behaviors that give information:

E: The clinical educator gives either an **explanation** of the material, offers a verbal example to clarify student understanding, or responds to a student question. Also includes other forms of information exchange (conversations, giving instructions, etc.).
D: The clinical educator **demonstrates** a skill for a student (with or without explanation).
A: The clinical educator refers a student to educational **aids** or research opportunities, or uses an aid to enhance an explanation (posters, books, journals, etc.).

Teaching behaviors that evaluate students:

C: The clinical educator offers specific **corrective** feedback that is timely and relevant (i.e. "Next time try to overlap your tape strips by at least half an inch") .
F: The clinical educator offers specific positive **feedback** (i.e. "Your heel locks were better that time because they had fewer wrinkles").
P: The clinical educator offers general **praise** for good work (i.e. "Good job").

Questioning behaviors that promote problem solving and critical thinking:

L: The clinical educator asks a **low-level** question to ascertain a student's basic understanding of a subject (ie. knowledge or comprehension; "What are the three main ligaments in the lateral ankle?").
H: The clinical educator asks an **high-level** question that stimulates critical thinking and problem solving (ie. analysis, synthesis, or evaluation; "What might be an appropriate exercise for the rehabilitation of a grade 2 ankle sprain at day 3 post-injury, given that PROM is still limited and painful but the athlete can fully weight bear?").
S: The clinical educator is not interacting with students, but 2 or more students are independently engaged in peer coaching or learning activities (i.e. skill practice, **study** behaviors, etc.).

Physical presence at the clinical site:

T: The clinical educator provides direct patient care **without** interacting with a student (i.e. no explanation, demonstration, etc.). This includes practice, treatment, and rehabilitation preparations and clean up.
X: The clinical educator engages in behaviors **unrelated** to clinical education (ie. unrelated conversations, works in their office, etc.).
O: The clinical educator is in close physical proximity to and **observes** or monitors a student's skills practice or patient interaction (i.e. silent observation).

If the ACI/CI is multi-tasking, give credit for the positive behavior (i.e., if they are giving patient care and explaining the treatment, code an "E").

APPENDIX B: PARTICIPANT CONSENT FORM

UNIVERSITY OF NORTH CAROLINA AT GREENSBORO

CONSENT TO ACT AS A HUMAN PARTICIPANT

Project Title: A Supervision Program for Athletic Training Approved Clinical Instructors

Project Director: Nancy Groh, MS, ATC

Participant's Name: _____

DESCRIPTION AND EXPLANATION OF PROCEDURES:

This study is a dissertation research project. Subjects will be recruited from the accredited athletic training education (ATEP) program associated with the primary investigator. The subjects will be approved clinical instructors (ACIs) that are peers of the primary investigator and sophomore and junior level athletic training students enrolled in the ATEP. This project will assess the effectiveness of a structured clinical supervision program on increasing the use of effective clinical teaching behaviors by ACIs in the field experience, and on the development of self-reflection by the ACIs. The junior-level athletic training students will complete Surveys of Effective Clinical Educator Behaviors (SECEB) both pre and post supervision program. The ACIs must have completed a three-hour ACI workshop (to provide information on: learning styles, teaching styles, teaching methods, effective clinical instructor teaching behaviors, and include breakout sessions involving taking a teaching style inventory and participating in a group stimulated recall session) prior to participation. The subjects will participate in one-hour focus group session (post clinical supervision intervention) and fill out a post-intervention survey, and have time to fill out a self-evaluation (pre and post supervision intervention) and participate in five 30-minute conference sessions with the primary investigator over a four-week period. The primary investigator will also videotape the subjects (ACIs and sophomore and junior-level athletic training students) during the four-week period for the purpose of coding the use of effective clinical instructor teaching behaviors and to be used in stimulated recall sessions during the conferencing sessions. Athletes being treated by the ACIs and students will be asked to participate as patients in the videotaping sessions. All videotape sessions will take place during regularly scheduled field experiences. Each member of the research team with access to the data and consent forms will sign letters of confidentiality. Data and consent forms will be kept for seven years in a locked file cabinet found in a secure location and shredded prior to its disposal.

RISKS AND DISCOMFORTS:

There are no risks of participation other than those associated with participating in an educational workshop, focus group interview, individual conference sessions, and in your normal activities of daily living.

POTENTIAL BENEFITS:

The data from this study will improve athletic training clinical education by demonstrating the effects of a supervision program on the use of effective clinical teaching behaviors in the field experience.

CONSENT:

By signing this form, you agree that you understand the procedures and any risks and benefits involved in this research. You are free to refuse to participate or to withdraw your consent to participate in this research at any time without penalty or prejudice; your participation is entirely voluntary. Your privacy will be protected because you will not be identified by name as a participant in this project.

The University of North Carolina at Greensboro Institutional Review Board, which insures that research involving people follows federal regulations, has approved the research and this consent form. Questions regarding your rights as a participant in this project can be answered by calling Mr. Eric Allen at (336) 256-1482. Questions regarding the research itself will be answered by Nancy Groh, MS, ATC by calling 336-841-4515. Any new information that develops during the project will be provided to you if the information might affect your willingness to continue participation in the project.

By signing this form, you are agreeing to participate in the project described above.

_____ _____

Participant's Signature* Date

APPENDIX C: ACI SURVEY OF CLINICAL SUPERVISION INTERVENTION

ACI Survey of Clinical Supervision Intervention

Please use the following scale to evaluate components of the Clinical Supervision Intervention. Circle the appropriate response, and also add comments for the open-ended items.

SD=Strongly Disagree D=Disagree N=Neutral A=Agree SA=Strongly Agree

1. This component of the clinical supervision intervention had a positive impact on my role as an ACI.

- Conferencing ____SD D N A SA
- Goal Setting ____ SD D N A SA
- ORCEB data ____ SD D N A SA
- Stimulated recall ____ SD D N A SA

Which component(s) had the greatest positive impact and please explain how they had a positive impact.

_____
_____
_____
_____

Did any of the above components of the clinical supervision intervention have a negative impact on your role as an ACI? If so, which ones, and how did they have a negative impact?

_____
_____
_____
_____

2. This component of the clinical supervision intervention encouraged me to use self-reflection in my role as an ACI.

- Conferencing ____ SD D N A SA
- Goal Setting ____ SD D N A SA
- ORCEB ____ SD D N A SA
- Stimulated recall ____ SD D N A SA

Which component(s) encouraged you the most, and please explain how they encouraged self-reflection.

_____
_____
_____
_____

Did any of the above components of the clinical supervision intervention discourage you from using self-reflection in your role as an ACI? If so, which ones, and how did they discourage self-reflection? _____
_____
_____

3. This component of the clinical supervision intervention resulted in positive learning experiences.

➢ Conferencing	____ SD	D	N	A	SA
➢ Goal setting	____ SD	D	N	A	SA
➢ ORCEB data	____ SD	D	N	A	SA
➢ Stimulate recall	____ SD	D	N	A	SA
➢ Role of CIE	____ SD	D	N	A	SA

Which component(s) had the greatest positive impact and please explain how they resulted in positive learning experiences.

_____
_____
_____
_____

Did any of the above components of the clinical supervision intervention result in negative learning experiences? If so, which ones, and how did they result in negative learning?_____
_____
_____

APPENDIX D: SEMI-STRUCTURED FOCUS GROUP INTERVIEW GUIDE

Learning Outcomes of a Structured Clinical Supervision Program for Approved Clinical Instructors in Athletic Training
Semi-structured Interview Plan – ACI Focus Group

"What is learned from clinical supervision from an ACI's perspective?

Introduction:
Focus of the Study: To investigate the learning outcomes of a structured clinical supervision program for ACIs in athletic training.
Goals of the Interview: To understand what is learned from participating in a structured clinical supervision program from the ACIs perspective.

Demographics Card:
Ask the participant to complete the card. Items on the card include: name and chosen pseudonym, number of years as an ATC, number of months/years as an ACI, route to certification (internship, curriculum program, or accredited program).

The Clinical Supervision Program

1) Overall during participating in the clinical supervision program, what aspects do you believe had a positive or negative influence on your role as an ACI?

- Conferencing?
- Goal setting?
- ORCEB data?
- Stimulated recall?

2) Overall during participating in the clinical supervision program, what aspects do you believe did or did not influence self-reflection in relation to your role as an ACI?

- Conferencing?
- Goal setting?
- ORCEB data?
- Stimulated recall?

3) Describe a moment during the clinical supervision program where you felt you "learned" something.

- What factors influenced that experience?
- What was unique about that moment?
- What actions or behaviors did you, the ACI, contribute to that moment?
- What actions or behaviors did the CIE contribute to that moment?

4) Overall after participating in the clinical supervision program, describe what components of the program created positive learning experiences and which aspects created negative learning experiences?

- Conferencing?
- Goal setting?
- ORCEB data?
- Stimulated recall?
- Role of CIE?

Pre versus Post- Clinical Supervision Program

1) Describe how your perceptions of effective ACI behavior have changed after participating in the clinical supervision program.

- What were your previous perceptions? What are your current perceptions?
- What factors do you believe influenced the change?

2) Describe how your ACI behaviors have changed after participating in the clinical supervision program.

- What behaviors did you use in the clinical education of ATS before participating in the clinical supervision program?

- What behaviors have you adopted in the clinical education of ATS since participating in the clinical supervision program?

3) Describe how your practices in self-reflection (relating to your role as ACI) have changed following after participating in the clinical supervision program.

- What reflective practices did you use prior to participating in the clinical supervision program?

- What reflective practices have you adopted since participating in the clinical supervision program?